

4. In 8/4 H 2/2  
6.1  
96th Congress }  
1st Session }

COMMITTEE PRINT

{ COMMITTEE  
PRINT 96-IFC 31

# HAZARDOUS WASTE DISPOSAL

## REPORT

together with

ADDITIONAL AND SEPARATE VIEWS

BY THE

SUBCOMMITTEE ON OVERSIGHT AND  
INVESTIGATIONS

OF THE

COMMITTEE ON INTERSTATE AND  
FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

FIRST SESSION



SEPTEMBER 1979

U.S. GOVERNMENT PRINTING OFFICE

51-514 O

WASHINGTON : 1979

For sale by the Superintendent of Documents, U.S. Government Printing Office  
Washington, D.C. 20402

## COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

HARLEY O. STAGGERS, West Virginia, *Chairman*

JOHN D. DINGELL, Michigan	JAMES T. BROYHILL, North Carolina
LIONEL VAN DEERLIN, California	SAMUEL L. DEVINE, Ohio
JOHN M. MURPHY, New York	TIM LEE CARTER, Kentucky
DAVID E. SATTERFIELD III, Virginia	CLARENCE J. BROWN, Ohio
BOB ECKHARDT, Texas	JAMES M. COLLINS, Texas
RICHARDSON PREYER, North Carolina	NORMAN F. LENT, New York
JAMES H. SCHEUER, New York	EDWARD R. MADIGAN, Illinois
RICHARD L. OTTINGER, New York	CARLOS J. MOORHEAD, California
HENRY A. WAXMAN, California	MATTHEW J. RINALDO, New Jersey
TIMOTHY E. WIRTH, Colorado	DAVE STOCKMAN, Michigan
PHILIP R. SHARP, Indiana	MARC L. MARKS, Pennsylvania
JAMES J. FLORIO, New Jersey	TOM CORCORAN, Illinois
ANTHONY TOBY MOFFETT, Connecticut	GARY A. LEE, New York
JIM SANTINI, Nevada	TOM LOEFFLER, Texas
ANDREW MAGUIRE, New Jersey	WILLIAM E. DANNEMEYER, California
MARTY RUSSO, Illinois	
EDWARD J. MARKEY, Massachusetts	
THOMAS A. LUKEN, Ohio	
DOUG WALGREN, Pennsylvania	
ALBERT GORE, Jr., Tennessee	
BARBARA A. MIKULSKI, Maryland	
RONALD M. MOTT, Ohio	
PHIL GRAMM, Texas	
AL SWIFT, Washington	
MICKEY LELAND, Texas	
RICHARD C. SHELBY, Alabama	

KENNETH J. PAINTER, *Acting Chief Clerk and Staff Director*

ELEANOR A. DINKINS, *Assistant Clerk*

H. CLAIRE WHITNEY, *Minority Staff Assistant*

---

## SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

BOB ECKHARDT, Texas, *Chairman*

JIM SANTINI, Nevada	NORMAN F. LENT, New York
ALBERT GORE, Jr., Tennessee	MATTHEW J. RINALDO, New Jersey
PHILIP R. SHARP, Indiana	MARC L. MARKS, Pennsylvania
ANTHONY TOBY MOFFETT, Connecticut	TOM CORCORAN, Illinois
ANDREW MAGUIRE, New Jersey	WILLIAM E. DANNEMEYER, California
MARTY RUSSO, Illinois	JAMES T. BROYHILL, North Carolina
DOUG WALGREN, Pennsylvania	(Ex Officio)
RONALD M. MOTT, Ohio	
MICKEY LELAND, Texas	
TIMOTHY E. WIRTH, Colorado	
HARLEY O. STAGGERS, West Virginia	
(Ex Officio)	

MARK J. RAABE, *Staff Director/Chief Counsel*

LESTER BROWN, *Special Assistant*

PETER KINZLER, *Counsel*

DAVID NELSON, *Economist*

## LETTER OF TRANSMITTAL

---

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,  
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,  
*Washington, D.C., September 27, 1979.*

HON. HARLEY O. STAGGERS,  
*Chairman, Committee on Interstate and Foreign Commerce,*  
*Washington, D.C.*

DEAR MR. CHAIRMAN: The attached report focuses on the problem of hazardous waste disposal in the United States. It is the culmination of a series of 13 days of hearings held by the Subcommittee on this topic. Testimony from a wide variety of witnesses has led us to the conclusion that hazardous waste disposal is one of the most serious environmental problems faced by this country today.

Inadequate disposal of hundreds of billions of pounds of hazardous waste at both active and inactive sites poses severe threats to man and the environment. Millions of people are exposed to toxic materials leaking from these sites. Evidence presented to the Subcommittee indicates that people living near disposal sites may face not only immediate adverse health effects, but the potential for higher risk of disease in the future.

The Subcommittee is very concerned over the failure of the Environmental Protection Agency (EPA), industry and the Congress to meet the challenge presented by hazardous waste disposal. EPA has failed to meet statutory deadlines for regulations on disposal of hazardous wastes; has failed to determine the location of all hazardous waste sites; and has not taken vigorous enforcement actions. Industry has, in many cases, continued inadequate disposal practices long after they had knowledge that these practices were resulting in water and land contamination. And the Congress has allocated far too few funds to deal effectively with a problem of this magnitude.

The report reviews EPA's long-awaited proposed regulations and finds them lacking. Recommendations are made which we believe will improve the regulations and the Act itself to provide an adequate regulatory scheme and adequate funds to clean up dangerous existing sites to assure the safety of the American people and the environment.

In closing, I would like to commend the Subcommittee staff for its dedication and hard work during the course of this lengthy inquiry. In addition to Mr. Lester Brown, who played the key role, together with those listed on the opposite page, I would like to express appreciation to Minority Staff Director Gene Turner, Special Assistant Ben Smethurst, Research Assistant D. Ann Seyfrit, former Subcommittee staff member, Ray Cole, and the support staff.

Sincerely,

BOB ECKHARDT,  
*Chairman, Subcommittee on*  
*Oversight and Investigations.*



# CONTENTS

---

	Page
I. Introduction.....	1
II. Summary of findings and recommendations.....	3
A. Findings.....	3
B. Recommendations.....	7
III. Findings concerning disposal of hazardous waste.....	9
A. Common characteristics of dump sites.....	9
B. Inadequate State and local response to threats to the public health from hazardous waste disposal.....	18
C. Inordinately high cost of failure to regulate adequately.....	23
D. Special problems with certain kinds of dump sites.....	24
E. Locating future sites.....	26
IV. The statutory basis for control of disposal of hazardous wastes.....	28
A. The Resource Conservation and Recovery Act of 1976: "To eliminate the last remaining loophole in environmental law".....	28
B. EPA administration of the hazardous waste provisions of the Resource Conservation and Recovery Act: Delayed Federal effort frustrates effective action.....	32
C. Deficiencies of the Resource Conservation and Recovery Act.....	47
V. Recommendations.....	50
A. General recommendations for EPA action.....	50
B. Recommended specific changes in proposed regulations.....	52
C. Recommendations for statutory changes.....	55
Additional views of Hon. Bob Eckhardt, chairman, Subcommittee on Oversight and Investigations.....	61
Additional views of Hon. Albert Gore, Jr.....	63
Additional views of Hon. Norman F. Lent, Matthew J. Rinaldo, Tom Corcoran, and James T. Broyhill.....	66
Separate views of Hon. Norman F. Lent.....	71
Separate views of Hon. Marc L. Marks.....	72
Separate views of Hon. William E. Dannemeyer.....	73



Digitized by the Internet Archive  
in 2013

<http://archive.org/details/hazwastedi00unit>



## HAZARDOUS WASTE DISPOSAL

---

"I believe that it is probably the first or second most serious environmental problem in the country. One of the difficulties is that we really do not know what the dimensions of the problem are. Essentially, there is very little downside risk to anybody who illegally disposes of chemicals in such a way as to be harmful to the public health.

We do not know where the millions of tons of stuff is going. We feel that the things that have turned up like the Love Canal and Kin-Buc situation are simply the tip of the iceberg. We do not have the capacity at this time really to find out what is actually happening. In my view, it is simply a wide open situation, like the Wild West was in the 1870's, for toxic disposal.

The public is basically unprotected. There just are not any lawmen out there, State or Federal, policing this subject."

JAMES MOORMAN, *Assistant Attorney General for Land and Natural Resources, U.S. Department of Justice*, in testimony before the Subcommittee on Oversight and Investigations, May 16, 1979.

### I. INTRODUCTION

The hazardous waste disposal problem cannot be overstated. The Environmental Protection Agency (EPA) has estimated that 77,140,000,000 pounds of hazardous waste are generated each year, but only 10 percent of that amount is disposed of in an environmentally sound manner.<sup>1</sup> Today, there are some 30,000 hazardous waste disposal sites in the United States.<sup>2</sup> Because of years of inadequate disposal practices and the absence of regulation, hundreds and perhaps thousands of these sites now pose an imminent hazard to man and the environment. Our country presently lacks an adequate program to determine where these sites are; to clean up unsafe active and inactive sites; and to provide sufficient facilities for the safe disposal of hazardous wastes in the future.

Recognition of the magnitude of the hazardous waste disposal problem has only recently come to this Subcommittee's attention. The Subcommittee on Oversight and Investigations began its inquiry into unsound hazardous waste disposal practices in the 95th Congress. On October 30, 1978, the Subcommittee began a series of 13 days of hearings. We heard from representatives of the States of New York, New

---

<sup>1</sup> 43 FR 58947 (Dec. 18, 1978). In its proposed regulations to implement the hazardous waste disposal provisions of the Resource Conservation and Recovery Act, EPA estimated that 35 million metric tons per year of hazardous waste will be subject to regulation. That figure is translated into pounds by multiplying by 2204, thereby yielding an estimate of 77,140,000,000 pounds of hazardous waste produced each year.

<sup>2</sup> 43 FR 58946 (Dec. 18, 1978).

Jersey, Pennsylvania, Maryland, Texas, Michigan, Colorado, California and Kentucky. We analyzed the hazardous waste problems in those States and, in addition, we investigated specific waste disposal problems in Tennessee, Montana, Idaho, Florida and Louisiana. We also received testimony from private citizens, representatives of local governments, disposal corporations, private waste generators, the General Accounting Office, EPA and the Justice Department. Nearly a hundred witnesses appeared before the Subcommittee, contributing to a hearing transcript that exceeds 1800 pages.

Additionally, in the course of its investigation, the Subcommittee has reviewed thousands of documents obtained from the Securities and Exchange Commission (SEC) concerning the disposal practices of Occidental Petroleum, Inc.'s chemical manufacturing division, including Hooker Chemical Company.

Furthermore, in June of this year the Subcommittee issued a questionnaire to the 53 largest domestic chemical producers concerning their hazardous waste disposal practices for the past thirty years. In response, the Subcommittee has received information on the disposal practices of approximately 1600 manufacturing facilities embracing information concerning several thousand sites where hazardous waste has been disposed.

We have investigated environmental contamination resulting from disposal sites in all areas of the country; from the Love Canal in New York to the Valley of the Drums in Shepardsville, Kentucky, to Lathrop, California. We have found that massive quantities of chemical and pesticide waste contaminants as well as other toxic materials are leaking out of disposal sites or "non-sites" where waste has been illegally dumped in open fields, swamps, and vacant lots. It also has been spread on roads as a dangerous ingredient of road oil. In sum, the Subcommittee finds that proper disposal of hazardous materials is the exception, rather than the rule.

Federal and State efforts to control disposal of hazardous wastes are totally inadequate. With adoption of the Resource Conservation and Recovery Act (RCRA) in the fall of 1976, Congress established for the first time a Federal program to regulate the disposal of hazardous wastes. While the Congress may have been unrealistic in giving EPA only 18 months to develop national standards for the proper disposal of these wastes, there can be no excuse for EPA's failure to promulgate regulations in the nearly three years since the statute was enacted. EPA also has failed to conduct a comprehensive search for hazardous waste sites and to pursue enforcement actions vigorously.

It must also be said that industry has shown laxity, not infrequently to the point of criminal negligence, in soiling the land and adulterating the waters with its toxins. And it cannot be denied that Congress has shown lethargy in legislating controls and appropriating funds for their enforcement.

As a result, even an extraordinary effort, commenced immediately, cannot achieve adequate protection for the American public for years to come. In the interim, it is our duty—that is, the government's duty—to sound a warning. That is what your Subcommittee is doing here. We also are recommending how protection for the American public



against these chemical and biological hazards can ultimately be achieved.

Although major improvements in EPA's administration of RCRA will provide greater protection against the improper disposal of hazardous wastes, the problem is far larger than that Act anticipated. Funds must be provided to clean up dangerous sites and the Federal government must promote the development of environmentally safe disposal and treatment facilities, as well as safer and cheaper methods of incinerating, recycling and reprocessing hazardous wastes.

This report explores the range and seriousness of the hazardous waste problem by discussing in detail the problems we found at many sites, as well as some of the problems we found with improper recycling. It also discusses the shortcomings of RCRA and of EPA's enforcement of RCRA, and then offers some suggestions for improving the implementation of RCRA and for amending the Act to insure that all hazardous waste dangers are addressed.

## II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

### A. FINDINGS

#### 1. FINDINGS CONCERNING DISPOSAL OF HAZARDOUS WASTE

##### (a) *Common characteristics of dump sites*

The Subcommittee investigation of over one dozen hazardous waste disposal problems revealed four characteristics that were common to most of the sites:

##### (1) The sites contain large quantities of hazardous waste:

—Hooker Chemical's three disposal sites in the Niagara Falls, New York, area contain an estimated 352 million pounds of industrial chemical waste, including TCP (which is often contaminated with one of the most toxic substances known to man, dioxin) and lindane, a highly toxic pesticide product.

—Occidental Chemical Company's site at Lathrop, California, discharged thousands of gallons of pesticide formulation wastes into the ground on the company site.

—Hooker dumped millions of pounds of hazardous wastes in the local municipal dumps on Long Island, New York.

—The Valley of the Drums in Shepardsville, Kentucky, contains over 17,000 barrels of hazardous wastes.

—The Chemical Control site in Elizabeth, New Jersey, contained over 40,000 barrels of hazardous wastes. At least 100 pounds of picric acid, a powerful explosive, also was found stored on the site.

##### (2) Unsafe design and disposal methods are widespread:

—At the S-Area site in Niagara Falls, drums of liquid hazardous wastes were rolled into trenches and tank wagons were discharged directly into pits at a site composed of reclaimed land. Samples of sediment from a water treatment plant only a few hundred feet from the site suggest that chemicals from the dump site have entered the water supply.

—A similar disposal method at the Hardeman County, Tennessee site resulted in the contamination of well water.

—At the Valley of the Drums, thousands of barrels were stacked illegally in the hauler's backyard. These drums are in a seriously deteriorating state, and some have already burst and spilled their contents on the ground.

—At Hooker's Montague, Michigan site, barrels of hazardous waste were often dumped off the backs of trucks and hacked open by men armed with axes. The nature of the area affords no geological protection against the wastes reaching local groundwater.

—At the Elizabeth, New Jersey site, tens of thousands of barrels of highly toxic, explosive and flammable materials are unsafely "stored" within a few feet of the Company's waste incinerator, within a few feet of a local road and a railroad right of way and within one quarter mile of huge liquified natural gas and propane storage tanks.

—At Lathrop, California, pesticide formulation waste products placed in lagoons were allowed to percolate into the extremely permeable soil, threatening the area's drinking and irrigation water.

—In Denver, Colorado, radioactive waste products from old radium industry operations have been discovered throughout the Denver area.

—In Central Florida, hundreds of homes were built on land covered with waste containing radium and thorium from old phosphate operations; unhealthy levels of radon gas have been found in hundreds of homes.

—At the Love Canal, the safety of clay-lined landfills for disposal of highly toxic organic waste has been questioned.

—Waste oil contaminated with toxic chemicals was laid on 9 roads in East Texas due to the negligence of the waste disposal company.

(3) The danger to the environment is substantial:

—Contaminated groundwater has rendered unusable the local water supplies in Montague, Michigan; Lathrop, California; parts of two counties on Long Island, including the towns of Bethpage and Glenn Cove; and around the dump site in Hardeman County, Tennessee.

—Leachate from the S-area dump threatens the principal water supply of the City of Niagara Falls.

—Two hundred thirty families have been evacuated from the Love Canal and the property values of the entire neighborhood have been rendered negligible.

(4) Many sites pose major health hazards:

—The Love Canal health data shows elevated miscarriage and birth defect rates; evidence suggests many other health effects, the nature and extent of which are in dispute.

—Excessive radiation levels in Denver, Colorado, and Central Florida pose serious risks of latent cancers and genetic damage. For example, EPA has estimated that the Florida area residents' risk of contracting lung cancer is 35 percent above average.

—The State of New Jersey has estimated that a fire or explosion at the Chemical Control site could produce a toxic cloud of chem-

icals that could threaten hundreds of thousands of people in the New York metropolitan area.

(b) Inadequate State and local response to threats to the public health from hazardous waste disposal:

—The Board of Education of Niagara Falls permitted a public school to be built on top of the Love Canal site and local officials permitted a residential subdivision to be built adjacent to the site.

—The New York State Health Department has failed to assure residents of the Love Canal that the public health is being adequately protected.

—The Orange District Office of the Texas Department of Water Resources did not perform an adequate investigation of contaminated road oil dumped in East Texas and, therefore, failed to discover a potential public health problem until after any damage was already done.

(c) The failure to properly dispose of hazardous waste is costing the public millions and the cost of cleanup is far more expensive than proper disposal in the first place:

—An EPA report estimates that it will cost between \$13.1 and \$22.1 billion to clean up all hazardous waste that pose a danger to public health and the environment.

—Cleanup costs at the Love Canal have already exceeded \$27 million and area residents are seeking more than \$2 billion for personal injury and property damage. It is estimated that a properly secured disposal site would have cost only \$4 million (in 1979 dollars) in 1952 when the site was closed.

—The State of Michigan has estimated the cost of cleaning up the Montague site at \$100 million.

—The State of New Jersey has estimated the cost of cleaning up Chemical Control at \$10 million.

—EPA estimates it will cost up to \$2.9 million for remedial work to eliminate the danger of phosphate slag in Florida.

—The Colorado Health Department says that cleaning up the radium in Denver could cost up to \$25 million.

—Should the containment efforts at the S-area in Niagara Falls and on Long Island fail, the cost of building alternative water supply systems would be astronomical.

(d) Special problems with certain kinds of dump sites:

—Abandoned sites—those where no owner can be found or where the owner cannot afford the cost of clean up—have forced State and local governments to bear the costs.

—On-site facilities—those owned and operated by the generators of the waste, either on the plant site or elsewhere—pose serious problems because State regulation of them historically has been minimal. The Subcommittee's survey of the 53 largest domestic chemical manufacturers revealed that 94% of their wastes have been disposed of on the plant site.

(e) Locating future sites will be difficult:

—The Nation is facing a critical storage of safe disposal sites for hazardous wastes which will be exacerbated as hazardous waste production increases.

(1) The State of New Jersey testified that it is having difficulty finding a home for the more than 40,000 barrels of chemicals at the Chemical Control site.



(2) The State of Kentucky has not yet located a safe home for the 17,000 partially buried drums at the Valley of the Drums.

(3) The Colorado Department of Health is having difficulty finding a disposal site for the 70,000 cubic feet of radium-contaminated soil in Denver.

—Public opposition to new sites, caused by improper disposal in the past, is growing. Until such opposition can be lessened by demonstrating that hazardous wastes can be disposed of safely, future sites may have to be located on Federal and State lands.

## 2. STATUTORY BASIS FOR CONTROL OF DISPOSAL OF HAZARDOUS WASTE

(a) Subtitle C of the Resource Conservation and Recovery Act requires EPA to devise standards for state management of hazardous waste disposal. EPA is required to promulgate regulations to—

- (1) identify and list the characteristics of hazardous waste;
- (2) require generators (producers) of hazardous waste to keep records on their wastes, label containers, and initiate a manifest to supply others in the waste disposal chain with information on the composition of the waste and to trace the movement of that waste from the generator to the final disposal site;
- (3) set standards for transporters of waste;
- (4) set standards for owners and operators of hazardous waste treatment, storage, and disposal facilities; and
- (5) set standards for issuing permits to all such facilities.

In addition, the Act authorizes EPA to bring suit to force the clean up of a hazardous waste problem if the generation, transportation, storage, disposal or treatment of the waste presents an imminent hazard to health or the environment. Finally, the Act provides both civil and criminal penalties for violations.

(b) EPA's slow enforcement of the hazardous waste provisions of the Resource Conservation and Recovery Act has frustrated effective action.

(1) Despite EPA's own estimates that 77.1 billion pounds of hazardous waste are produced each year but only 10 percent are disposed of in an environmentally sound manner, EPA has failed to conduct a comprehensive inventory of the location and content of all places where hazardous waste has been disposed;

(2) Although the Congressional deadline of 18 months for EPA promulgation of regulations may have been unduly short, there is no excuse for not having the regulations promulgated by now, three years later. This delay apparently stems from EPA's failure to recognize the importance of the problem and request the necessary staff and resources to meet the deadlines. EPA requested far less than the authorized ceilings for fiscal 1978 and 1979 and then, after the Congress appropriated more than they requested, EPA failed to spend what the Congress had appropriated;

(3) EPA has proposed inadequate regulations:

—The proposed regulations do not require testing for four of the eight characteristics of hazardous waste; use

a procedure for testing for toxicity that does not adequately simulate real world conditions; and fail to list as hazardous a number of known carcinogens;

—The proposed regulations wrongfully exempt some generators of highly dangerous hazardous wastes simply because the quantity of wastes disposed is not large and do not adequately regulate the use of recycled wastes;

—The proposed regulations for owners and operators of hazardous waste treatment, storage, and disposal facilities are not flexible enough to permit the continued use of important small, single waste or special purpose facilities; would allow migration of wastes from sites and stop the monitoring of them long before the end of the wastes' toxicity; and require insufficient comprehensive monitoring for leachate and groundwater contamination; and

—The proposed regulations would permit the granting of interim permits to sites that are far below the minimum safety level; and

(4) EPA's failure to promulgate regulations in a timely fashion is delaying State programs, as States are reluctant to act for fear that they will have to act a second time later to comply with as yet unknown Federal standards. The resulting State inaction perpetuates the weakest link problem as waste is disposed of in the States with the least restrictive laws.

(c) Deficiencies in RCRA have left important regulatory gaps.

(1) The Act is prospective and applies to past sites only to the extent that they are posing an imminent hazard. Even there, the Act is of no help if a financially responsible owner of the site cannot be located.

(2) RCRA does not authorize EPA and the Department of Justice to subpoena documents or persons suspected of illegal or inadequate hazardous waste disposal practices.

(3) RCRA does not require people to reveal the existence and monitor possible pollution from inactive waste disposal sites.

(4) RCRA provides inadequate funds for State hazardous waste programs. If RCRA's objective of State management of hazardous waste disposal is to become a reality, a sure source of funds must be provided to cover the cost of that regulation.

## B. RECOMMENDATIONS

### 1. *EPA should—*

(a) Take all steps necessary to promulgate hazardous waste disposal regulations at the earliest possible date. Their promulgation is the key to enforcement of RCRA and further delay cannot be tolerated.

(b) Conduct an inventory of all hazardous waste disposal sites, so that proper regulatory and enforcement priorities can be established;

(c) Improve its proposed regulations.



(1) The regulations for identification and listing of hazardous waste should be revised to require that generators test for all eight characteristics of hazardous waste; to devise a better means of testing for toxicity; and to include a more comprehensive list of toxic wastes as hazardous;

(2) The standards applicable to generators of hazardous waste should be amended to eliminate the exemption based merely upon the quantity of waste disposed, rather than upon their degree of toxicity; and the manifest system proposed should be strengthened to assure that all wastes disposed of can be traced to their original owner, that shippers keep a daily log of all materials contained in their tanks, and that the manifest system for recycled materials not stop before the point of final disposal; and

(3) The standards applicable to owners and operators of hazardous waste treatment, storage and disposal facilities should be revised so that the requirements for disposal site construction, management, monitoring, closure, and post-closure care are based upon the degree of hazard presented by the quality and quantity of the wastes and the composition of the site and its location vis-a-vis the surrounding population and the groundwater.

2. *Legislation should be enacted to—*

(a) Amend RCRA to give EPA and the Justice Department subpoena authority.

(b) Increase funding for enforcement of RCRA by EPA and the Justice Department, and to provide grants to state attorneys general for enforcement of RCRA.

(c) Create the post of Assistant Administrator for Land and Hazardous Materials to place the land program on the same footing with the air and water programs.

(d) Create an emergency action fund to pay for the cleanup of existing sites—including abandoned sites—that pose a danger to health or the environment. The fund could be established either with general tax revenues or a combination of tax revenues and an industry-based fee system. In either event, the fund should be reimbursed by the persons who did the harm in the first place.

(e) Amend RCRA to establish requirements for inactive hazardous waste disposal sites.

(f) Establish a fee system collected from the generators of hazardous waste for State administration of hazardous waste programs and for any costs of violations of RCRA that are not paid because of the financial inability of the responsible person.

(g) Establish strict liability for generators for damages caused by hazardous wastes until the wastes are no longer hazardous.

(h) Strengthen the criminal penalties section of RCRA to permit imprisonment up to 5 years for a first violation of RCRA and up to 10 years for a second violation. In addition, RCRA should be amended to hold the responsible corporate officials who knew of illegal activities or had reason to know of them liable for their actions and the actions of their employees.

### III. FINDINGS CONCERNING DISPOSAL OF HAZARDOUS WASTES

#### A. COMMON CHARACTERISTICS OF DUMP SITES

During the course of the Subcommittee's investigation, we examined over one dozen hazardous waste disposal site problems in detail. Four characteristics were common to most sites examined: large quantities of hazardous waste; unsafe designs and/or disposal methods; environmental danger; and serious actual and/or potential threats to the public health. One or more of the sites also called attention to a variety of other problems surrounding the issue of hazardous waste disposal.

##### 1. THE SITES CONTAIN LARGE QUANTITIES OF HAZARDOUS WASTE

Several of these problem sites contained large amounts of wastes which pose a major threat to the environment by their nature. Much of these wastes are highly toxic, flammable, explosive, and corrosive.

The three disposal sites of Hooker Chemical in the Niagara Falls, New York area examined in detail by the Subcommittee contain an estimated 352 million pounds of industrial chemical waste. Included in the Love Canal portion of this figure is approximately 460,000 pounds of Trichlorophenol (TCP) which is often contaminated with one of the most toxic substances known to man—dioxin; and over 13 million pounds of BCH/Hexachlorocyclohexane (also known as lindane), a highly toxic pesticide product dumped in the Love Canal.

The estimate for Hooker's Hyde Park site includes 6,600,000 pounds of TCP; 400,000 pounds of the highly toxic chemical dechlorene, also known as the insecticide mirex; 9 million pounds of C-56 derivatives, highly toxic chemicals which form the basis of kepone and other insecticide products; and other chemical products containing large concentrations of chlorene and benzene.

Hooker's S-Area site and a small dump adjacent to it contain an estimated 148,800,000 pounds of industrial chemical wastes, including 37 million pounds of C-56, and over 36 million pounds of chlorobenzene waste products.

Massive quantities of pesticide wastes constitute the principal problem at the Hooker site in Montague, Michigan, and the Occidental Chemical Company site at Lathrop, California. Montague contains an estimated 250,000 cubic yards of chemicals and other industrial wastes. Among the compounds dumped were 23,000 cubic yards of C-56, as well as mirex, kepone, and TCDD (dioxin).

Occidental Chemical Company records indicated that thousands of gallons of pesticide formulation waste containing liquids and other waste products were discharged into the ground on the company's Lathrop site. These materials included Dibromo-3-Chloropropane (DBCP) waste and Ethylene Dibromide (EBD) and Carbon Tetrachloride.

Hooker did not dump wastes exclusively on private property. Documents concerning that company's facility in Hicksville, New York, indicate that this one manufacturing facility alone sent 800,000 pounds

of solid and liquid waste to local municipal dumps. Unfortunately Hooker's waste is only a part of the hazardous waste dumped in publicly and private owned disposal sites on Long Island.

Waste deposited in drums are a problem at many sites. At the Hardeman County, Tennessee, landfill, an estimated 300,000 fifty-five gallon drums of pesticide and other chemical wastes have been dumped. The "Valley of the Drums" in Shepardsville, Kentucky, contains over 17,000 barrels of waste of undetermined toxicity, explosivity, and flammability that were simply illegally dumped in the hauler's backyard. In addition, an undetermined amount of waste material was dumped directly into the ground. Some of the materials found on-site to date include: alkyl aromatics, ketones, many alcohols, organic acids, and heavy metals.

The Chemical Control site in Elizabeth, New Jersey, contains over 40,000 barrels of hazardous waste. The barrels are piled up to heights of twenty feet or more. The State of New Jersey reports that it has only analyzed the contents of a small percent of the barrels at the site. To date, however, it has found large amounts of benzene, cyanides, and nitro compounds. It also found, but has since removed, some 100 pounds of picric acid, which is a more powerful explosive than TNT.

## 2. UNSAFE SITE DESIGN AND DISPOSAL METHODS ARE WIDESPREAD

All of the sites reviewed by the Subcommittee had major design deficiencies. Indeed, virtually all would be considered unsafe when EPA's proposed section 3004 standards are applied. The following case studies illustrate the unsafe disposal practices used more generally by disposers.

At the S-Area site in Niagara Falls, New York, materials were dumped in an area which was composed of land reclaimed from the river. The land is very porous. Mr. Elliot Lynch, Acting Chief Operator and Chemist for the Niagara County Water District, an eyewitness to the disposal of the hazardous materials, described the method of disposal in the following manner:

In 1958 I began taking pictures of this construction as well as of the Hooker landfill area next to the city property.

Photographs show the disposal area, 55-gallon containers, tank trucks, and in one instance, a railroad tank car. A series of parallel trenches were dug, 55-gallon drums lined up on the crest of the trenches, punctured in some instances, and rolled into the trenches and covered. Tank wagons would be discharged directly into the pits and the effluent then covered.<sup>3</sup>

The site was also located only a few hundred feet from a water treatment plant, the principal source of water for a city of over 100,000 people. Samples of sediment from the intake tunnels of the plant suggest that chemicals from the dump site have entered the water supply. A similar disposal method was used at the Hardeman County, Tennessee, site and resulted in the contamination of the well water in the surrounding area.

<sup>3</sup> Testimony of Elliot Lynch before the Subcommittee on Oversight and Investigations, Mar. 22, 1979, at p. 12 of the transcript.



In at least three locations, Shepardsville, Kentucky, Montague, Michigan, and Elizabeth, New Jersey, thousands of barrels were merely stacked on site with little or no precautions against possible disasters. The Valley of the Drums site at Shepardsville, Kentucky, is an illegal disposal site covering some 23 acres. T. A. Taylor, former owner and operator of the site, stacked thousands of barrels of hazardous wastes on top of the site; buried an indeterminate amount of hazardous materials in drums at the site; and made no attempt to prevent site contents from polluting local surface waters. Thousands of drums now in a deteriorating state remain stacked on the property. Many of these drums have swollen by internal pressure and many have burst, spilling their contents on the ground.

Little care was taken to dispose of the hazardous materials at the Montague site in an environmentally sound manner. Barrels of hazardous materials were often dumped off the back of trucks onto the ground and hacked open by men armed with axes. This practice assured that a majority of the drums' contents would spill out into the ground and be absorbed into the soil.

The Montague disposal site is located on top of a hill above a lake. The local drinking water was obtained from the groundwater table less than 100 feet below the site. There are no materials, according to geological reports, between the surface and the water table which would stop the downward flow of the toxic chemicals dumped. In addition, this water table recharges into the local fresh water lake which, in turn, feeds into Lake Michigan.

Consultant studies performed for Hooker indicate that the existence of abandoned disposal wells in the dump area also may have provided a direct pathway for the waste from the surface into the aquifer (a geological formation that yielded usable quantities of groundwater to the wells).

In the case of Elizabeth, New Jersey, tens of thousands of barrels of highly toxic, explosive, and flammable materials were "stored" on this site, some within a few feet of Chemical Control's waste incinerator. No effort was made to keep an inventory of the materials stored, and in some cases highly explosive materials were placed in unsafe areas; for example, a loft in a warehouse building on-site.

Drums were stacked within a few feet of a local road and a railroad right-of-way. Moreover, the facility is located within one quarter of a mile of huge liquefied natural gas and propane storage tanks which could be seriously jeopardized by a fire or explosion at the Chemical Control site.

At Lathrop, California, pesticide formulation waste products were, according to internal Occidental memos, placed in lagoons where tons of waste water were allowed to percolate into the ground. Once again, the area used to dispose of this material is composed of extremely permeable soil. Additionally, the major source of area drinking and irrigation water is the shallow water table into which 5 tons of pesticides a year was allowed to percolate.

Both the Hyde Park, New York, site and the abandoned site at the Stringfellow Quarry in Riverside, California, were subject to flooding during times of heavy rainfall. In the case of Hyde Park, the

run-off would spill over into adjacent manufacturing plants endangering workers and periodically causing a shutdown of some plant operations. The run-off drains into Bloody Run Creek which flows under one plant, through a residential neighborhood, under Niagara University and into the Niagara River near Lake Ontario. At the quarry, heavy rains resulted in overflow sending contaminated water into the valley below.

Problems from dumping which probably took place over 50 years ago are now becoming evident in the City of Denver, Colorado. Radioactive waste products from old radium industry mining and milling operations have been discovered in buildings, under buildings, in abandoned lots and under streets throughout the Denver area.

A similar situation was examined in Central Florida. Thousands of acres of land are covered with waste from old phosphate mining and manufacturing operations. In the past, the mining and milling of phosphates resulted in slag which contains significant quantities of radioactive waste materials such as radium and thorium. Hundreds of homes have been built on these reclaimed lands. No effort was made to cover the low-level radioactive waste materials with soil to insulate the homes from exposure to these wastes.

Perhaps the most serious implication for future disposal practices involves the Love Canal because that dump site was alleged to be a clay-lined, clay-capped vault not dissimilar to the kind of landfill which is envisioned under section 3004 of the proposed EPA regulations.

The central question concerns the migration route of chemicals out the Canal dump site. The State believes that the combination of a clay cap with a leachate collection system will at least contain the problem adequately. If the migration of toxics occurred primarily because the dump site was improperly sealed at the top—and clearly it was—this strategy should be effective.

However, the swale or wet area theory casts doubts on this strategy. This theory holds that materials also may have moved through abandoned streambeds, which intersect the Canal and crisscross the surrounding residential neighborhood. If toxic leachate reached homes through fissures in the clay walls of the Canal and then down the old streambeds filled with loosely packed materials, the effectiveness of the collection system is problematic. Some support for the swale theory lies in the fact that 75% of sump pumps in basements in wet areas were found to contain lindane.

It is questionable whether highly toxic organic materials which are resistant to biodegradation should be placed in landfills at all, particularly where there is not even an attempt to solidify the poisonous liquids. Such materials are much better suited for disposal by incineration.

While not a dump site problem, the disposal practice which resulted in the contamination of certain roads in East Texas requires discussion. Waste oil contaminated with toxic chemicals, principally nitrobenzene, was laid down on nine roads in East Texas. This oil originated from the Browning-Ferris Chemical Services, Inc. (BFI) transfer facility near Nederland, Texas. The practice dates back to



at least 1977. The Company accepts full responsibility and, to its credit, promptly consented to remove the contaminated sections of eight of those roads under orders from the Texas Department of Water Resources.

BFI testified that such contamination was accidental and the careless practices which led to the problems have been eliminated. However, documents obtained under subpoena by the Subcommittee suggest, at a minimum, a pattern of negligence on the part of the management of the Nederland facility prevailed through November 2, 1978.

The line management at the Nederland facility denied any knowledge of how the nitrobenzene contaminated the road oil. However, this management presided over such practices for at least two years and also permitted hundreds of thousands of gallons of nitrobenzene, benzene, aniline tar and "waste oil" to be shipped into Louisiana allegedly to be used as industrial fuel oil without even the most basic of precautions, that is, signed contracts. They admitted to no knowledge of the final destination or use of these toxics, all of which they had obtained under a contract with DuPont which called for environmentally sound disposal.

Further, a study prepared by the Subcommittee staff documented the immense economic incentives for improper disposal. In the face of these incentives, a comprehensive system of internal and external controls is necessary to prevent such occurrences. The condition of the BFI records delivered to this Subcommittee suggests the absence of even proper accounting controls prior to November 1978.

### 3. THE DANGER TO THE ENVIRONMENT FROM THESE SITES IS SUBSTANTIAL

The volume and toxicity of the materials dumped at these sites and the inadequate disposal methods used have resulted in significant environmental damage already and pose additional threats for the future.

The most pervasive damage done to the environment at these sites has been the contamination of groundwater. Local water supplies have been rendered unusable in areas surrounding the dump sites in Hardeman County, Tennessee; Montague, Michigan; Lathrop, California; and parts of two counties on Long Island including the towns of Bethpage and Glen Cove, New York. As noted earlier, leachate from the S-Area dump threatens the principal water supply intake system for Niagara Falls, New York.

The threat to groundwater is particularly serious. Almost half the American population relies on groundwater for its drinking water supply. Further, almost one-fifth of America's population relies on groundwater from individual wells without the benefit of treatment systems.<sup>4</sup> Inasmuch as these wells are rarely monitored, it is impossible to determine when human health is threatened by polluted water until after illness develops. Groundwater is also very difficult to clean up after it has been polluted.

In addition, local surface waters have been polluted by contaminants from the Shepardsville, Kentucky and Hyde Park, New York

<sup>4</sup> EPA's Report to Congress on Waste Disposal Practices and Their Effects on Groundwater (January 1977), at p. 16.

sites, as has White Lake, a major recreational facility near the Montague, Michigan site.

Damage to land was also found to be extensive. Residential neighborhoods in Niagara Falls, New York, and Polk County, Florida have been endangered. Parts of Denver are threatened and the Chemical Control site in Elizabeth, New Jersey contains the possibility of disaster for a part of the largest Metropolitan area in the U.S.

The Colorado radium site stems from extensive uranium mining and processing in Colorado over the last 100 years. The State is faced with some 40 sites containing various degrees of radium contamination in the soil. These sites, 30 of which are located in and around Denver, include nine vacant lots, two railroad rights-of-way, six commercial structures, and ten combinations of lot and structure situations. The extent of the problem in Colorado is not yet clear. Further radiometric surveys and drilling to determine the location and volume of residues are being done. To date, over 70,000 cubic yards of contaminated material have been identified.

The nature of the problem examined by the Subcommittee in Florida is similar to that in Colorado. The source of the problem in Florida derives from the old process of phosphate mining. Of the 120,000-150,000 acres of land that have been mined since 1900, some 50,000 acres have been reclaimed. Phosphate slag is often used in building materials. Both the reclaimed land and the slag have higher than normal levels of radiation due to the radioactive residues in the slag. The residues emit radon gases which can accumulate in homes, particularly in basements where ventilation is poor. To date, some 4,000 homes occupied by approximately 14,000 people in Polk County, Florida, sit on reclaimed land.

Thus far, at the Love Canal site, a public school has been closed and 230 homes have been abandoned at considerable cost to the State of New York. If the health data developed by Dr. Beverly Paigen proves correct, at least another 140 families will have to be evacuated and perhaps many more. An adjacent public housing project is threatened. In short, the property values of an entire subdivision have been rendered negligible.

Another Niagara Falls site, Hyde Park, adjoins three industrial plants. Unless the remedial work undertaken by Hooker Chemical proves successful, these manufacturing concerns may be forced to abandon their property.

In the road oil case, all or parts of eight roads in East Texas have been ordered removed by the Texas Department of Water Resources. The extent of contamination of adjacent land and water is unknown. Further, the former management of Browning-Ferris Chemical Services, Inc.'s transfer station at Nederland, Texas, denied any knowledge of the final disposition of the contaminated waste oil, nitrobenzene, benzene, and aniline tar supplied to small recyclers in Louisiana. The Subcommittee discovered that these small waste oil firms do much of their business with asphalt contractors in Louisiana and Mississippi, thus it is possible that roads in those States may also be contaminated with toxic substances.

#### 4. MANY OF THESE SITES POSE A MAJOR HAZARD TO PUBLIC HEALTH

Not only have the sites reviewed inflicted major environmental damage, but in some cases, people have already been injured by site contents and are at a higher risk of disease because of their exposure to site contents or may in the future suffer significant adverse health effects as a result of the unsafe nature of these sites.

The Love Canal is the most wellknown of the problem sites. The extent of the damage to the public health of the residents of the neighborhood caused by toxics emanating from the Love Canal is still not known. A major dispute exists between the survey conducted by Dr. Beverly Paigen of the Roswell Cancer Institute, a consultant to the Love Canal residents, and that performed by the New York State Health Department.

Dr. Paigen's study of the health effects on residents of the area had important methodological limits. First, residents of the affected neighborhood were surveyed by non-professionals over the telephone. Second, given the prevailing fear and falling property values, many of the residents wished to leave the area and have their homes purchased by the State. Thus, the residents had an incentive to exaggerate health problems. Third, Dr. Paigen did not have the resources to confirm all health claims with physicians. On the other hand, Dr. Paigen's major observed effects are not difficult ones for people to evaluate. Her findings, which are based on a comparison between the incidence of disease found in homes located atop swales or wet areas and those homes in the same neighborhood which were not located in swale areas, are dramatic indeed. The miscarriage rates increased to 25 percent from an average of 8.5 percent among women moving into the Love Canal area. She found a 20 percent incidence of birth defects in wet areas compared to 7 percent in dry areas and the problem is getting worse. Of the 16 children born in wet areas from 1974 through 1978, 9 had birth defects.

Central nervous system disorders were common. Nervous breakdowns occurred among adults living in wet areas at the rate of 9 percent compared to 2.2 percent living in dry areas to the South and 0.7 percent in dry areas to the North. In the last 10 years, six suicides occurred in the area (1.7 would be expected). Eleven out of thirteen hyperactive children studied lived in wet areas. Convulsive disorders such as epilepsy occurred in 1.9 percent of persons living in wet areas compared to 0.7 percent in dry areas. Dr. Paigen also found the incidence of urinary disease at 7 percent in wet areas versus 2.5 percent in dry areas. Respiratory problems were also significant with asthma up 380 percent in wet areas over dry areas.

Dr. Paigen believes that these findings may understate the problem for three reasons. First, the "control group" or comparison population studied consisted of those Love Canal residents living in dry areas—and thus potentially exposed to some toxic fumes—rather than people who lived in an environment demonstrably free of these toxic chemicals. Second, her study did not examine those residents in the closest proximity to the Canal because they had already been evacuated by the State. Third, she found those families which suffered no ill effects more willing to participate than some with severe health problems.



She also found evidence of other health problems which she could not evaluate within the limits of statistical significance.

Dr. Paigen expanded on her findings as follows:

All of this evidence is statistical. It is important in establishing the magnitude of the problem, but it does not convey the human dimensions of what is involved. For that I would like to tell you briefly about the history of one house in a wet area.

This house is rented, and four families have lived there during a 15-year period. In family number one, the wife had a nervous breakdown and a hysterectomy due to uterine bleeding.

In family number two, the husband had a nervous breakdown. The wife had a hysterectomy due to uterine cancer. The daughter developed epilepsy and the son, asthma.

In family number three, the wife had a nervous breakdown. Both children suffered from bronchitis.

In family number four, who lived there less than two years, the wife developed severe headaches after moving in. She also had a hysterectomy due to uterine bleeding and a premalignant growth.<sup>5</sup>

The State of New York also has conducted studies of the health effects of residents of the Love Canal area. These findings differ in some important respects from those of Dr. Paigen. However, there was no testimony to suggest that the State studies were either more comprehensive or bias-free than Dr. Paigen's study.

In two areas of critical importance, the studies came to similar conclusions. Both conclude that there has been an elevation of miscarriage and birth defect rates in the swale area. In fact, the State has found sufficient evidence to require the temporary evacuation of pregnant women and those with children up to the age of two years. The State studies either dispute Dr. Paigen's other conclusions or the State has not yet released findings on the incidence of specific health problems.<sup>6</sup>

Later in this report, we will analyze the adequacy of the response of the State of New York to the problems of the victims of the Love Canal. It is sufficient to say at this point that the State Health Department has not provided the residents of the area nor this Subcommittee with a credible refutation of the Paigen study.

The Hyde Park site also raised serious public health concerns. The toxins emanating from the dump via Bloody Run Creek have caused serious respiratory problems for a large family, the Armagosts, according to testimony from their physician. Local union representatives from the plants adjoining the dump gave extensive testimony on the health problems experienced by the workers, particularly respiratory and skin problems, including cancer. Many of the acute symptoms coincided with exposure to toxic fumes given off by the dump site. Responding to requests by Chairman Eckhardt as well as the United Steelworkers of America and the Oil, Chemical and Atomic Workers International Union, the National Institute of Occupational Safety and Health (NIOSH) promptly initiated a comprehensive health

<sup>5</sup> Testimony of Dr. Beverly Paigen before the Subcommittee on Oversight and Investigations, Mar. 21, 1979, at pp. 119-120 of the transcript.

<sup>6</sup> It should be remembered that the State did evacuate all people living in the first two rings surrounding the Canal. These people were not part of the Paigen Study and so are not part of the dispute between Dr. Paigen and the State.

hazard evaluation of the workers in those three plants. The results of that survey are not yet available.

Among the 16.5 million gallons of compounds dumped by Velsicol at the Hardeman County, Tennessee site were endrin, heptachlor, benzene, and aldrin, all carcinogens or suspected carcinogens.

The following quotation from the 1972 State order closing the dump site clearly indicates that this land may never again be usable:

The dangers presented by these compounds are directly related to their high toxicity and persistent toxicity over long periods of time.

The characteristics of these compounds which create a danger to both man and the environment include extreme toxicity over long periods of time, indicating very slow degradation; near insolubility in water with the tendency to cling or adhere to particulate matter; and the ability to accumulate in the fatty tissues of most animals and to be absorbed by vegetable crops from contaminated soil, thereby entering man's feed chain.

Due to the compounds' insolubility and cling characteristics, the water becomes a mover of the wastes.

Local residents' drinking water near the Hardeman County dump site was found to contain at least a dozen dangerous pesticide manufacturing wastes. The levels of carbon tetrachloride in a nearby drinking water well, for example, was 48 times that found in the Ohio River when Cincinnati residents were warned not to drink the water.

Excessive radiation levels constitute the health problems examined in Colorado and Florida. In Denver, readings of radon daughter levels (radium products) at some sites are ten times that of average levels. In some locations, contamination was found within one foot of the surface. Radon daughters are known to induce lung cancer.

Exposure in the structures mentioned results from higher than average gamma emissions. Latent cancers and genetic effects are the dangers posed by gamma radiation. Epidemiological studies are currently in progress to determine the extent of the damage to public health.

People in some of the homes in Polk County, Florida, are exposed to levels of radiation eight times the normal amount. The Governor of Florida was advised in an EPA report dated July 2, 1979, that those residents' risks of contracting lung cancer were 35 percent above average. Furthermore, people spending 75-80 percent of their time in the home (housewives, for example) face a possible increase in lung cancer of 50 percent.

Drinking water contamination in Montague, Michigan, Long Island, New York, and Lathrop, California, pose potential long-run health problems for affected residents. Chronic exposure to low levels of toxic chemicals may produce health problems which may not be known for years due to long latency periods.

The Chemical Control site poses a toxic, explosive, and fire hazard to the residents of both Northern New Jersey and New York City, despite the fact that the State of New Jersey has removed the picric acid. The State has estimated that fire or explosion on this site could spread and possibly ignite millions of gallons of liquid natural gas stored within a quarter of a mile of the site. The resulting fire and explosion could injure thousands of people.



Additionally, a fire or explosion at the site itself could produce a toxic cloud of chemicals which could drift for miles threatening hundreds of thousands of people.

## B. INADEQUATE STATE AND LOCAL RESPONSE TO THREATS TO THE PUBLIC HEALTH FROM HAZARDOUS WASTE DISPOSAL

Just as EPA has not effectively exercised its imminent hazard authority under RCRA, State and local agencies have either failed to recognize or been unable to take appropriate action to protect adequately against threats to the public health from hazardous waste disposal.

It is important that perspective be maintained on the issue of the behavior of government officials. The officials are not the source of the problems. The dumping was done by private concerns which at times profited substantially at the expense of the environment and, at times, the public health. We found numerous instances in which they did not inform the responsible public officials of the existence and/or magnitude of potential problems.

In certain cases, officials were either woefully uninformed or derelict in their duty. For example, the Board of Education of the City of Niagara Falls chose to build a public school on top of the Love Canal dump site, and then local officials permitted a residential subdivision to be built immediately adjacent to the site. While it is difficult to believe that the School Board fully understood the composition and potential danger of the waste materials, the deed conveying the property from Hooker to the School Board did include a warning that chemicals were stored in the Canal. In undocumented testimony, Hooker claimed that the School Board was warned against construction activity of any kind and deeded the property only upon the insistence of the Board. Clearly, the victims of the Love Canal disaster have reason to question whether State and local officials have committed themselves to a maximum effort to minimize the danger to the public health.

Hooker Chemical was aware at least as early as 1958 that children were experiencing chemical burns from substances percolating up from the Love Canal dump site yet took no action to inform local residents of the potential hazards. Mr. Wilkenfeld, formerly of Hooker Chemical, was questioned on this point:

Mr. GORE. Twenty-one years ago when this incident occurred with the children being burned, did the company warn only the school board or did you take any steps to alert the people who lived there?

Mr. WILKENFELD. It was my understanding that the people who lived in the area knew that this was a former chemical dump and that these materials were hazardous and that the children should not get in there.

As a matter of fact, on these occasions when children would get into material like that, they quite frequently would call our plant dispensary to get information from the nurse on treatment of irritation from the chemicals.

Mr. GORE. Did you tell them not to play in the area?

Mr. WILKENFELD. I can't say what the nurse's response was.

Mr. GORE. Did you take any steps to inform the people who lived adjacent to the Love Canal dump site to inform them of what kinds of chemicals were in the dump site and what the hazards to their health were?

Mr. WILKENFELD. No; we did not.

Mr. GORE. Why not?

Mr. WILKENFELD. We did not feel that we could do this without incurring substantial liabilities for implying that the current owners of the property were doing an inadequate care on the property.

Mr. GORE. That seems like it sure does slight the people who were exposed to the health hazard.

If you were worried about that, did that also make you think that maybe the school board would be less than candid in passing on your warnings to the people who lived there?

Mr. WILKENFELD. I can't speak for the school board.

Mr. GORE. You would have known if the school board passed on any kind of warning to the people who lived adjacent the canal wouldn't you?

Mr. WILKENFELD. Not necessarily.

Mr. GORE. If they had done an effective job, you would have.

Mr. WILKENFELD. I might have known; I might not have. It depends on how they did it.

Mr. GORE. Did you ever receive any reports back that they did pass a warning on to the people?

Mr. WILKENFELD. No.

Mr. GORE. Did that make you wonder whether or not further steps ought to be taken to warn the people who lived in the area of the hazards they faced?

Mr. WILKENFELD. If I did—and I don't recall at this time—I didn't do anything about it at that time.<sup>7</sup>

Nor was Hooker sufficiently concerned with the potential health problems posed by the Love Canal to keep the Company from contemplating the disposal of another site—the 102nd Street dump—in a similar manner. A 1972 internal Hooker memo suggests three possible uses for that site: sale to the city of Niagara Falls; sale or lease to private interests for development (the land had been zoned as multiple family residential); or use by Hooker as a warehouse. Another memo suggested that the City of Niagara Falls might want to buy the land for park and recreational facilities.

It is obvious from the testimony surrounding each of the Niagara Falls sites that the relationship between Hooker and local officials was very cooperative. Mr. Robert Matthews, Director of Utilities for the City of Niagara Falls and the individual charged with responsibility for the water intake system that is threatened by the migration of toxic chemicals from the S-Area site, volunteered his opinion of the relationship between Hooker and the City:

Insofar as my experience is concerned—and, again, it is limited to water and waste water in Niagara Falls—Hooker has acted very responsibly. Hooker executives have given me good and learned advice. When you are in a situation such as I am in, you need advice.<sup>8</sup>

It is interesting to note that Mr. Olotka, the former industrial waste supervisor of Hooker, testified that he and four other industry representatives formed an Industry Liaison Committee that passed on Mr. Matthews' qualifications for his first job with the City:

Mr. LENT. You helped the city pass on this fellow's—Matthews'—qualifications?

<sup>7</sup> Testimony of Jay Wilkenfeld, Director of Health and Environment, Occidental Petroleum (the parent company of Hooker Chemical) before the Subcommittee on Oversight and Investigations, April 10, 1979, at pp. 110–111, 111–112, and 112–113 of the transcript.

<sup>8</sup> Testimony of Robert Matthews before the Subcommittee on Oversight and Investigations, March 22, 1979, at pp. 106–107 of the transcript.

Mr. OLOTKA. The city of Niagara Falls officially hired the gentleman. We were given the honor of reviewing the fact that he did have professional qualifications which we expressed our concern to the city manager before the city went ahead and interviewed people.<sup>9</sup>

A crisis of confidence has arisen with regard to the response of the State of New York to the situation at the Love Canal. As noted earlier, a serious conflict of testimony exists with regard to the health effects experienced by residents. Dr. Paigen's testimony is compelling but not conclusive. Dr. David Axelrod, Commissioner of Health, refuses to accept questionnaires compiled by Dr. Paigen as a valid data base. Instead, he supports the Health Department's own studies. In defense of his preference for them, Dr. Axelrod places great reliance on the reviews of the State's studies by panels of outside experts. However, New York has refused to release the names of the members or minutes of the meetings of the panels. While in his testimony Dr. Axelrod maintained that section 206(1)(j) of the New York Public Health Law prohibits release of such documents, counsel for the State was unable to cite a single case in support of that position.

Dr. Paigen expressed her frustration in trying to reconcile her results with the State's findings as follows:

One of the problems we have had is that we cannot get any information, or we can get very little information, out of the health department. It is my belief that, when a governmental agency, particularly scientists in a governmental agency are doing studies like this, that, when they make a public statement or a decision, they should release a white paper that gives the scientific methods they used, the questions they asked, how they did their study, what the results are, what the statistical analysis is. Instead, all they do is make claims in press releases, and we have no way for independent scientists to review the validity of their conclusions.

\* \* \* \* \*

I have several scientific criticisms of some of the ways the State of New York has done its study. I understand why they minimize the health effects because of the way they designed the study. It was designed to minimize the health effects.

That panel of blue ribbon experts, I am told by people up there, have never been given a paper like I presented for you today with how the study was designed, what questions were asked, how the data was collected, and so forth. So, they really were not in a position to review it, to subject it to what is called scientific peer review.

They certainly did not act as judges between the State's point of view and my point of view, since I was not given any opportunity to present my point of view: nor were those experts even told that I had an independent point of view.<sup>10</sup>

Thus far, the state of New York has spent millions of dollars to remove 230 families from the area immediately surrounding the Canal. If Dr. Paigen is correct, at least 140 additional families would

<sup>9</sup> Testimony of F. T. Olotka before the Subcommittee on Oversight and Investigations, April 10, 1979, at pp. 134-135 of the transcript.

<sup>10</sup> Testimony of Dr. Beverly Paigen before the Subcommittee on Oversight and Investigations, March 21, 1979, at pp. 139-140, 145-146 of the transcript.



have to be moved. Furthermore, the swale theory leaves open serious questions as to whether or not the remedial work nearing completion at the dump site will be sufficient to prevent migration of these poisons in the future.

Unfortunately, the State of New York has failed to reconcile the important differences between their studies and Dr. Paigen's. The only public outside examination and attempt to reconcile the different studies was performed by scientists from EPA and HEW at the request of Representative John La Falce (D-N.Y.). That review of the Paigen-Axelrod controversy produced the following major findings and conclusions:

1. The data suggest a gradient of health effects with the most severe occurring in residents of houses immediately adjacent to the Canal and in "wet areas". Prudent public health practice dictates that these exposures be minimized to the extent feasible.

2. Excess miscarriage reported by the New York State Department of Health may have been understated because the State included only those miscarriages confirmed by physicians, whereas control groups used by the State have included self-reported cases.

3. Every effort should be made to find and utilize a suitable control population or to assess precisely the health effects on the population. Studies of miscarriages and low birth weight should be continued.

4. Although these data may be incomplete and contain potential bias, the concerns and questions raised by Dr. Paigen are important and merit attention.

5. It is acknowledged that the scientists conducting on-going studies are State employees. However, although they are highly competent and held in high esteem by their peers, the public may perceive a conflict of interest. For this reason the involvement of outside scientists, both in the interpretation of the data and the formulation of recommendations for the State, should be continued in order to assure that all health effects are disclosed and considered. To assure public confidence in the findings the State may also wish to include non-scientists, local residents and others in future deliberations.<sup>11</sup>

The Subcommittee agrees with these conclusions. We believe that Dr. Paigen's study is of sufficient scientific merit to deserve serious public comment by State officials. Moreover, we share the view that outside scientists and non-scientists not associated with the State should

<sup>11</sup> The study also made the following findings and conclusions: (1) The health effects data, including miscarriage rate data are not likely to have sufficient statistical precision to serve as the sole criterion for defining which houses should be evacuated. (2) Geochemical mapping should serve to identify those areas which are contaminated by chemicals and therefore are more likely to cause adverse health effects in residents. (3) Decisions regarding the Griffin Manor area should be based primarily on geochemical findings and not observed health effects, since populations living there may be too mobile for the results of the health effects study to be meaningful. (4) Geochemical mapping should be pursued. These results correlated with health effects data should be helpful in determining where dwellings should be prohibited and what other steps should be warranted. (5) In order to assure that the full health effects of the Love Canal can be assessed, a mechanism for providing consistent, long term health care to the residents, and a registry regarding medical information should be developed. The HEW-EPA report is retained in the Subcommittee's files, as is a letter from Chairman Eckhardt to Dr. Axelrod requesting his comments on the Report and Dr. Axelrod's indirect response contained in a letter to Lois Gibbs of the Love Canal Homeowners Association.

have access to all information used by the State and the State's methodology so that it can be put to the test of independent examination. Only in this way can the people of Love Canal be assured that the best possible efforts are being made to protect them. Further, we believe that the State should relocate all families living in the wet areas until a satisfactory determination of the health effects, including a credible reconciliation of the Paigen findings, has been completed.

The Texas road oil case points to potential future problems in the enforcement of RCRA. The Texas system relies on manifest reporting as the primary means of control. Generators of waste initiate manifests which are attested to by the transporters of waste as well as the operator of the final disposal site which returns one of the remaining manifests or trip tickets to the generator. Monthly reports to the State are made by the generators and records are maintained by the other parties. The existence of a transfer station like the Nederland facility of BFI, where waste streams from various sources are commingled, complicates the record keeping problem to such an extent as to render the manifest system unreliable in tracking waste. The sole reason that DuPont was able to be indentified as the original generator in this case was the fact that it was the exclusive generator of nitrobenzene and cyanide waste streams processed by BFI Nederland.

The problem in this case was not just the deficiencies of the manifest system. A question was raised as to whether the law was properly enforced by the Orange District office of the Texas Department of Water Resources. That office received a complaint on November 2, 1978, that cyanide was being mixed with waste oil and dumped on roads near Corrigan, Texas.

The investigator assigned to the case, Melvin Swoboda, alleged in a formal report and later in testimony before this Subcommittee that all cyanide shipments could be accounted for and disposed of properly either at the class I landfill of Conservation Services, Inc. (CSI) or the deep well operated by Sonics International. In his testimony of May 30, 1979 Mr. Swoboda maintained that he had checked the manifests for the preceding 2 months as well as a log book kept by the BFI chemist who had been fired on November 1 and made the complaint the next day.

From the status of records supplied to this Subcommittee under subpoena, it is impossible to determine the movement of cyanide in and out of the transfer station over that period by reference to the manifests. Further, the log book, also obtained under subpoena, dates only from October 17, is fragmented and makes no reference to manifest numbers and thus could not be tied back to the State reporting system. That log book contained entries as recent as November 2, the day of the complaint, which indicated that road oil was being mixed with potentially toxic materials prior to shipment.

Clarence Moritz, Mr. Swoboda's supervisor, was so convinced of the Company's good faith in this matter that, in testimony before the Subcommittee, he theorized the source of contamination to be the failure of a truck driver to properly wash out a tanker prior to the loading of road oil. Clearly, these two enforcement officials did not perform the investigation necessary to insure that the public health was protected.



It should be noted that cyanide was never found in quantities above trace amounts at any of the East Texas roads. However, nitrobenzene was found in significant quantities up to 2 years after the dirt roads were saturated with oil. Nitrobenzene is a substance that produces a highly noxious odor even in minute quantities. The roads near Corrigan contained a stench that could only be described as overpowering six months after they were oiled. Both investigative reporters from the Port Arthur News and the staff person from the Subcommittee who visited the subdivision prior to removal of the roads reported headaches and nausea from just a few hours exposure.

In each of the instances discussed above, as in cases involving tardiness of EPA to implement the Resource Conservation and Recovery Act, we must not shoot the watchdog and then neglect to seek the burglar. In a number of the problems examined, the generator of the waste was in the best position to be informed of its toxicity and its potential hazard. And it is in this direction that the finger of blame should be pointed in order to identify the main culprit and the means of avoiding the danger in the future.

### C. INORDINATELY HIGH COST OF FAILURE TO REGULATE ADEQUATELY

Failure to properly dispose of hazardous waste is costing the public millions of dollars and could cost many times more in the future. Moreover, the cost of clean up is far more expensive than proper disposal in the first place.

To date, there is no definitive figure on the cost to society of improper hazardous waste practices. The Fred C. Hart report prepared for EPA attempted to estimate the cost of cleaning up abandoned and abandonable sites (sites for which the owners are unlocatable or judgment proof). That report suggests the cost of containment for such sites to be between \$1.8 and \$3.1 billion. Total costs for complete clean-up were estimated to be between \$13.1 and \$22.1 billion.

While this report has many methodological flaws, the inadequacy of its fundamental data base alone is enough to discredit the study. The estimate of the number of sites and the degree of hazard that they pose is little better than pure guesswork and thus the clean up estimates are unreliable.

But examination of sites by the Subcommittee strongly suggests that the real costs to society from improper disposal in the past are large indeed. Further delay in addressing the problem compounds the cost in both dollars and health.

Total clean-up costs for the Love Canal to date have exceeded \$27 million. Lawsuits seeking compensation for injury to human health and destruction of property values aggregate over \$2 billion. Ironically, it has been estimated that a properly secured disposal site would have cost only \$4 million (in 1979 dollars) in 1952 when the site was closed.

The State of Michigan testified that cleaning-up the Montague site may cost \$100 million, although Hooker Chemical believes that \$11 million will be sufficient. Likewise, New Jersey estimates that, in the case of the Chemical Control site, it will cost \$10 million to safely analyze and dispose of the materials stored there.

The removal of nitrobenzene-contaminated road oil from East Texas roads has cost Browning-Ferris many times the amount which would have been necessary to dispose of the toxic materials contained therein in secure landfills or deep injection wells in the first place.

Just the studies required to ascertain the danger of phosphate slag dumping in central Florida have cost the Federal and State governments almost \$1.4 million and EPA estimates that remedial work will range between \$1.2 and \$2.9 million. The Colorado Department of Health fears that the clean-up in Denver could cost up to \$25 million.

Hooker believes that containment at Lathrop will cost in excess of \$4 million. Independent engineering estimates of the cost of cleaning up the Hooker sites at Lathrop, Hyde Park and the S-Area, as well as at Columbus, Mississippi and Columbia, Tennessee, suggest that the Company's estimates may be very low.

In particular, should containment efforts at the S-Area site in Niagara Falls and those on Long Island fail, the cost of building alternative water supply systems would be immense and would burden the taxpayers of those communities and the State of New York for years to come.

## D. SPECIAL PROBLEMS WITH CERTAIN KINDS OF DUMP SITES

### 1. ABANDONED SITES

Although many waste sites may be linked to generators or others who are responsible for these sites, often those responsible do not have the financial resources to take the necessary remedial action to abate discharges from the site or clean-up the site once the problems arise. State and local governments have been forced to take sites over and pay for the clean-up and abatement activities. These expenses will mount as new problem sites are discovered and owners and operators of these sites declare bankruptcy. Moreover, in some cases the original owners and operators either cannot be identified or went out of business many years before the problems were discovered. The following cases are illustrative.

Unlike most illegal dump sites, the owner of the Valley of the Drums has been identified. Mrs. T. A. Taylor (who inherited the site from her husband) does not, however, have the funds necessary to clean up the site. Although the State could take legal action against Mrs. Taylor, only a fraction of the costs of clean-up could be obtained.

The owners of the Chemical Control facility have been identified. The State of New Jersey attempted, through early action, to move the owners to reduce the inventory on site. The owners insisted that this could only be done if the facility was allowed to continue operation. The State agreed to this and unfortunately not only wasn't the inventory reduced but it actually increased. Given these circumstances, the State was forced to take over the site to assure that clean-up was carried out. While a small amount of money was collected from the Company, Chemical Control is now bankrupt and New Jersey will have to bear most of the remaining clean up costs (some of the original generators of the wastes will pay for removal and proper storage of their wastes).

The State of California was forced to take over the Stringfellow site to ensure that its management would not endanger the property and health of those living near it. The State was unable to recover any money from the owners.

The miners and millers of the radium now presenting a major hazard in Denver went out of business over 50 years ago. Even if the City could find out who is responsible, it seems highly unlikely that they would have the funds or inclination to clean up the problem.

At the April 5, 1979 hearing, Congressman Andrew Maguire called attention to another abandoned site located in Northern New Jersey a few miles from Manhattan:

This is the so-called Ventron site located in Wood Ridge, New Jersey. From 1937 to 1974, this 40-acre property was one of the world's largest mercury processing plants. As a result, it now has the highest concentrations of mercury in the world (an estimated 150-300 tons). This highly toxic mercury has saturated the soil. It is also in the air, and it is also sitting in Berry's Creek, a tributary of Newark Bay.<sup>12</sup>

In 1978, the State of New Jersey filed suit against the six present and former owners of the property. But Mr. Maguire noted that:

This is a case where each of the defendants has said: "I didn't do it; it was the guy before me." No one is assuming responsibility.

If the State loses the suit, no one knows where the \$4 million or more will come from to clean up the site.<sup>13</sup>

Conspicuously absent from this list is the Love Canal. Although we are not convinced that the Canal is an abandoned site, it does illustrate some of the problems encountered by the government when dealing with abandoned sites. Here it is clear that the site is owned by the Board of Education of the City of Niagara Falls, local residents and another private party. Although it has been suggested that the Board of Education contributed to the problem by improperly caring for the site, it still seems that the Hooker Chemical Company is at least partially responsible for the problems which have developed since it originally owned and operated and then closed the site.

Clearly neither the Board of Education nor the City nor the residents of the area have the funds to pay for the clean-up or containment of the site and its contents. Whether Hooker is still responsible for the contents of the site and should therefore pay for the clean-up is a matter of dispute.

Nevertheless, in the Love Canal situation the City of Niagara Falls, the State of New York and the Federal Government have been forced to expend millions of dollars of tax revenues in an effort to reduce the danger posed by the site.

## 2. ON-SITE FACILITIES

The Subcommittee review of problem sites also indicates that many on-site disposal facilities, i.e., facilities owned and operated by generators of hazardous waste whether these facilities are on land contiguous to the manufacturing facilities themselves or not, pose signifi-

<sup>12</sup> Statement of the Hon. Andrew J. Maguire (D.-N.J.) before the Subcommittee on Oversight and Investigations, April 5, 1979, at p. 5 of the transcript.

<sup>13</sup> *Ibid.*, at p. 6.



cant problems. In many ways these facilities pose problems as serious as those posed by abandoned sites. Regulation of these facilities is minimal at best. Many States require little if any information on on-site facilities. Problems of on-site facilities are illustrated by the Hardeman County, S-Area, Montague, and Lathrop disposal facilities. Although ultimately it may be possible for the owners of these sites to pay for the clean-up, it has often been difficult for the Government to find out about problems created by the sites before severe damage is done.

The Hyde Park case illustrates another problem with regard to on-site facilities. In many instances, industrial development is concentrated geographically. The Hyde Park dump site is not located on the plant grounds but it might just as well have been. Workers from three adjoining plants were threatened by toxic chemicals emanating from the dump site. Thus arises the incredible possibility of employees being protected by the Occupational Safety and Health Act from toxic substances in the work place but contracting occupational diseases in the parking lot.

#### E. LOCATING FUTURE SITES

Because of inadequate disposal of hazardous wastes in the past, the public is generally unwilling to accept such sites near where they live, regardless of the quality of the sites. As a result, the Nation currently is facing a critical shortage of safe disposal sites for hazardous waste. The General Accounting Office, in its report *How to Dispose of Hazardous Waste—A Serious Question That Needs to be Resolved*, sums up the problem:

Adequate treatment and disposal capacity is critical to carrying out the hazardous waste regulatory program. However, there is currently a shortage of suitable disposal facilities and the problem will become more acute as (1) additional wastes are found to be hazardous, (2) wastes stored or disposed of in an environmentally unsound manner may require proper disposal, and (3) wastes presently treated and disposed of on company property may be taken to offsite disposal facilities. In addition, appreciable reductions in the volume of waste requiring disposal cannot be expected at present.<sup>14</sup>

Clean up of some dangerous sites has already been seriously affected by the shortage of safe sites. For example, the State of New Jersey testified before the Subcommittee that it was having difficulty finding a home, at a reasonable price, for disposal of the 40,000 plus barrels of chemicals at Chemical Control in Elizabeth. Similarly, the State of Kentucky informed the Subcommittee that it was having difficulty locating a safe home for the 17,000 partially buried drums at the Valley of the Drums.

The Colorado Department of Health informed the Subcommittee that it was having difficulty finding a disposal site for the more than 70,000 cubic feet of radium-contaminated soil it has discovered in Denver, Colorado.<sup>15</sup>

<sup>14</sup> *How to Dispose of Hazardous Waste—A Serious Question That Needs to Be Resolved*, General Accounting Office, Dec. 19, 1978, CED 79-13 at pp. i-ii.

<sup>15</sup> Testimony of Albert Hazle, Director of the Radiation and Hazardous Waste Division of the Colorado Department of Health, before the Subcommittee on Oversight and Investigations, May 23, 1979, at p. 46 of the transcript.

The scarcity of these sites is posing a major immediate problem in many States. Robert S. Flacke, New York State Commissioner of Environmental Conservation, made the following observation:

We are finding out that the ability for our country and our State to absorb this excess waste is becoming extremely difficult. That is posing a problem for New York State in that we have only two approved hazardous waste land facilities available to our industry.<sup>16</sup>

Besides the fact that the number of State sites is clearly inadequate to handle the hazardous waste now being generated, the transportation costs to these few sites are often prohibitive. For example, in the case of the Valley of the Drums, the State has learned that it can only dispose of its materials at a handful of sites. With the exception of one site outside of Cincinnati, Ohio, the other sites are over 1,000 miles away. The State estimates it would cost several million dollars to transport the materials to a safe site.<sup>17</sup>

The State of Maryland, which has one of the most successful hazardous waste management programs, informed the Subcommittee on June 5, 1979, that like other States, it faced a major siting problem. Mr. William Chicca, Chief of Industrial and Hazardous Substances Division of the Maryland Water Resources Administration, noted that:

Since the passage of Resource Conservation and Recovery Act, few if any new sites for the disposal of hazardous waste have been sited throughout the country. None have been sited in Maryland.<sup>18</sup>

Dr. Harvey Collins observed that in California:

... past attempts to obtain approval for hazardous waste landfills have gone down to defeat at the local level due to local opposition.<sup>19</sup>

The General Accounting Office has documented examples of public opposition to sites throughout the country. The following example is illustrative:

In 1975 EPA granted the Minnesota Pollution Control Agency \$3.7 million to establish a chemical landfill. The purpose of the grant was to demonstrate that a chemical landfill could be operated in an environmentally safe manner. After identifying 40 potential site locations, the agency narrowed the selection to 12 locations. All 12 proposed locations were rejected because of public opposition.

County commissioners representing the people near the proposed sites passed resolutions that a hazardous waste disposal site could not be located in their area and threatened to fight any such site in every way possible. As a result, the Minnesota Pollution Control Agency abandoned the idea of using any of the sites.

<sup>16</sup> Testimony of Robert S. Flacke, New York State Commissioner of Environmental Conservation, before the Subcommittee on Oversight and Investigations, June 19, 1979, at p. 47 of the transcript.

<sup>17</sup> Testimony of Eugene F. Mooney, Secretary, Department for Natural Resources and Environmental Protection, Commonwealth of Kentucky before the Subcommittee on Oversight and Investigations, June 19, 1979, at p. 53 of the transcript.

<sup>18</sup> Testimony of William Chicca, Chief of Industrial and Hazardous Substances Division of the Maryland Water Resources Administration, before the Subcommittee on Oversight and Investigations, June 5, 1979, at p. 37 of the transcript.

<sup>19</sup> Testimony of Dr. Harvey F. Collins, Acting Chief, Hazardous Waste Materials Management Section, California State Department of Health Services, before the Subcommittee on Oversight and Investigations, June 19, 1979, at p. 8 of the transcript.

The Control Agency then identified four new locations for the project. At each of four public information meetings, many people declared they did not want a hazardous waste site located near them. In August 1978, no site had been located, and the Control Agency, unable to meet its grant deadlines, returned the grant money to EPA.<sup>20</sup>

The discovery of additional hazardous waste site disasters has caused great public alarm. Understandably, citizens throughout the country are wary about the placing of a hazardous waste dump in their backyard. Without a doubt, much of this concern which has been translated into public opposition to the siting of disposal facilities is justified by inadequate hazardous waste management practices. Moreover, in some parts of the country the establishment of hazardous waste dumps is impracticable because of geological and meteorological conditions.

The most obvious long-run solution to the problem is to minimize the use of landfills for disposal of toxic wastes. This will require an acceleration of the trend toward recycling waste products and the development of economically feasible technology for the neutralization of those wastes which cannot be recycled. Federal research dollars should support both of these programs.

As minimum measures to rebuild public confidence in the efficacy of hazardous waste regulation, State and local governments as well as EPA should encourage maximum public participation in siting decisions. Vigorous monitoring and other enforcement action will ultimately restore faith in the ability of Government to protect the public health. A ban by EPA on the disposal of particularly dangerous toxic chemicals, especially certain organics, in landfills will also help to rebuild public confidence.

However, at least for the time being, sites must be found for properly planned facilities. The Government's failure to regulate hazardous waste practices has already cost the Nation millions in property damage, illness and natural resource destruction.

The Subcommittee believes that the general public will not reverse its basic opposition to the siting of disposal facilities in the near future. Given this fact and the immediate need for safe disposal facilities, the only solution may be to locate new facilities on Federal or State land.

Another possible approach to this problem would be to provide, through law, special Federal or State eminent domain powers to allow these government entities to site facilities where they are needed.

#### IV. THE STATUTORY BASIS FOR CONTROL OF DISPOSAL OF HAZARDOUS WASTES

##### A. THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976: "TO ELIMINATE THE LAST REMAINING LOOPHOLE IN ENVIRONMENTAL LAW"

###### 1. BACKGROUND

The Federal and State governments are not powerless to combat the problem of hazardous waste disposal. In fact, the Resource Conservation and Recovery Act (RCRA), Public Law No. 94-580, which

<sup>20</sup> How to Dispose of Hazardous Waste—A Serious Question That Needs To Be Resolved, General Accounting Office, Dec. 19, 1978, CED 79-13, at p. 13.



was signed into law on October 21, 1976, as an amendment to the Solid Waste Disposal Act (42 USC 3251 *et. seq.*), was specifically designed to "eliminate(s) the last remaining loophole in environmental law, that of unregulated land disposal of discarded materials and hazardous wastes."<sup>21</sup>

At the time of the bill's passage, the Congress had already enacted legislation to regulate air,<sup>22</sup> surface water,<sup>23</sup> and drinking water pollution.<sup>24</sup> While each of these statutes dealt with contamination of the environment by toxic and hazardous substances, none of them specifically addressed the disposal of toxic and hazardous substances on land. Ironically, the earlier statutes actually added to the amount of hazardous waste disposed of on land. The Report of the Interstate and Foreign Commerce Committee states:

At present the Federal Government is spending billions of dollars to remove pollutants from the air and water only to dispose of such pollutants on the land and in an environmentally unsound manner.<sup>25</sup>

For example, with the enactment of the Clean Water Act, a large amount of toxic and hazardous material is removed from navigable waters, but then it is solidified and disposed of on land. As a result of the Clean Air Act, much toxic material scrubbed from the stacks of industries and municipalities throughout the country is collected in solid form and also distributed in public landfills and other disposal sites. Thus, federal pollution control efforts with respect to water and air have increased substantially the difficulties involved in the disposal of hazardous waste materials.

In passing RCRA, Congress also recognized the converse—that failure to properly dispose of hazardous wastes was actually placing an additional burden on the air, surface water and drinking water programs. As the House Commerce Committee Report observes:

The existing methods of land disposal often result in air pollution, subsurface leachate and surface run-off which affect air and water quality.<sup>26</sup>

The report states further that the Committee believed that RCRA "... is necessary if other environmental laws are to be both cost and environmentally effective."<sup>27</sup>

To assure that proper disposal of waste on land would be considered a priority within EPA, the Congress created through Title II of RCRA, a statutory Office of Solid Waste, to be headed by a Deputy Assistant Administrator.

The House Commerce Committee report stresses that taking this action would provide the program with "... congressional direction and regulatory authority which the existing [administrative] Office of Solid Waste Management does not have."<sup>28</sup>

<sup>21</sup> Interstate and Foreign Commerce Committee, House Rept. 1491, to accompany H.R. 14496, 94th Congress, 2d session, 1976, p. 4.

<sup>22</sup> Clean Air Act, as amended, 42 U.S.C. 7401 *et. seq.*

<sup>23</sup> Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 *et. seq.*

<sup>24</sup> Safe Drinking Water Act, 42 U.S.C. 300f *et. seq.*

<sup>25</sup> House Rept. 94-1491 at pp. 4-5.

<sup>26</sup> *Idem.*

<sup>27</sup> *Idem.*

<sup>28</sup> *Idem.*

## 2. EPA'S RULEMAKING AUTHORITY: TO DEVISE STANDARDS FOR STATE MANAGEMENT OF HAZARDOUS WASTE DISPOSAL

Recognizing that "hazardous waste presents, in addition to the problems associated with non-hazardous solid waste, special dangers to health and requires a greater degree of regulation than does non-hazardous solid waste,"<sup>29</sup> the Congress enacted a special section in RCRA directing EPA to create a standardized national system for regulating hazardous waste.

Subtitle C of the act calls for the creation of a "cradle to grave" regulatory system for hazardous wastes. Sections 3001-3005 direct EPA to identify and list the characteristics of hazardous wastes;<sup>30</sup> and to develop standards applicable to waste generators,<sup>31</sup> transporters,<sup>32</sup> and owners and operators<sup>33</sup> of hazardous waste treatment storage and disposal facilities.<sup>34</sup> The Act also requires the Administrator to develop standards for issuing permits for the treatment, storage, or disposal of hazardous waste.<sup>35</sup> Section 3006 directs the Administrator to develop guidelines for authorizing the establishment of State hazardous waste programs. And section 3010 requires any generator, transporter, storer or disposer of hazardous waste to notify EPA of its activities.

Essentially, like the Safe Drinking Water Act, the Water Pollution Control Act, and other federal environmental acts, the Resource Conservation and Recovery Act envisions a hazardous waste regulatory program managed by State governments in cooperation with the Federal Government. Approved State programs would for the most part bear the responsibility for achieving hazardous waste control.

EPA's responsibility is to promulgate minimum national standards as the basis for the development of State regulatory programs. In order to insure the development of these standards within a reasonable period of time, the Congress placed in the Act specific deadlines for the promulgation of final standards. Sections 3001-3006 of the Act specifically direct the Administrator of EPA to promulgate final standards within 18 months of the enactment of the Act. The deadline, therefore, for promulgation of standards under the Act was April 1978.

In order to facilitate enforcement of these provisions, section 3008 provides that EPA need only demonstrate to a court that a waste is hazardous according to the definitions set out in regulations established under the Act or the language of the Act itself and that this waste is being transported, stored, treated or disposed of in violation of other sections of the Act or of regulations established by EPA.

Section 3008 provides for both civil and criminal actions against violators. In the case of civil violations, EPA can go to court to force a company to take corrective action to abate the problem or face a fine of not more than \$25,000 a day for the violation. Any person who

<sup>29</sup> Section 1002(b)(5) of the Resource Conservation and Recovery Act of 1976, Public Law No. 94-580, 42 U.S.C. 6901 et. seq.

<sup>30</sup> Section 3001 of RCRA.

<sup>31</sup> Section 3002 of RCRA.

<sup>32</sup> Section 3003 of RCRA.

<sup>33</sup> Section 3004 of RCRA.

<sup>34</sup> Section 3005 of RCRA.

<sup>35</sup> Idem.

knowingly violates the Act shall, upon conviction, be subject to a fine of not more than \$25,000 for each day of violation or to a maximum of one year in prison, or both. If a person is convicted of a knowing violation of the Act a second time, that person may be fined up to \$50,000 a day per violation, sentenced to a maximum of 2 years imprisonment, or both.

### 3. EPA'S IMMINENT HAZARD AUTHORITY

As the previous description reveals, RCRA is basically a prospective act designed to prevent improper disposal of hazardous wastes in the future. The only tool that it has to remedy the effects of past disposal practices which were not sound is its imminent hazard authority.

Like a number of other environmental and health acts, the Resource Conservation and Recovery Act authorizes the EPA Administrator to go to Federal Court and seek the abatement of a hazardous waste problem if he determines that the transportation, generation, storage, disposal, or treatment of such waste presents an imminent hazard to man or the environment. This power is granted the Administrator in section 7003 of RCRA, which states that :

Notwithstanding any other provision of this Act, upon receipt of evidence that the handling, storage, treatment, transportation, or disposal of any . . . hazardous waste is presenting an imminent and substantial endangerment to health or the environment, the Administrator may bring suit on behalf of the United States in the appropriate district court to immediately restrain any person from contributing to the alleged disposal to stop such handling, storage, treatment, transportation, or disposal or to take such other action as may be necessary.

Like other "imminent and substantial endangerment" provisions in environmental statutes (e.g., § 504 of the Clean Water Act, § 303 of the Clean Air Act and § 1431 of the Safe Drinking Water Act), § 7003 is essentially a codification of the common law public nuisance. The Congress made this intent clear as early as 1948 when, in § 2(d) of the Water Pollution Control Act (the forerunner of present day imminent hazard provisions), it expressly declared that "the pollution of interstate waters . . . which endangers the health or welfare of persons . . . is hereby declared to be a public nuisance and subject to abatement as herein provided" and authorized the appropriate Federal official to request the Attorney General to bring suit on behalf of the United States to "secure abatement of the pollution."

Section 7003 incorporates the legal theories used for centuries to assess liability for creating a public nuisance (including intentional tort, negligence and strict liability) for determining appropriate remedies. Terms such as "imminent" and "substantial" have a rich judicial history from common law nuisance actions.

However, § 7003 should not be construed solely with respect to the common law. Some terms and concepts, such as persons "contributing to" disposal resulting in a substantial endangerment, are meant to be more liberal than their common law counterparts. For example, a company that generates hazardous waste would be someone "contributing to" an endangerment under § 7003 even where someone else deposited the waste in an improper disposal site (similar to strict liability under common law).



Section 7003 is designed to provide the Administrator with overriding authority to respond to situations involving a substantial endangerment to health or the environment, regardless of other remedies available through the provisions of the Act. The section's broad authority to "take such other actions as may be necessary" includes both short- and long-term injunctive relief, ranging from construction of dikes to the adoption of certain treatment technologies, upgrading of disposal facilities, and removal and incineration.

Imminence in this section applies to the nature of the threat rather than identification of the time when the endangerment initially arose. The section, therefore, may be used for events which took place at some time in the past but which continue to present a threat to the public health or the environment. Additionally, use of the imminent hazard provisions of this Act does not preclude further enforcement actions against the violators.

This authority is of limited utility for several reasons. First, it is not preventative. It requires that an actual hazard exists. Second, EPA can only exercise this authority where the owner or responsible party is identifiable and financially and otherwise able to remedy it. Third, even where these conditions obtain, the "imminent and substantial" test carries a high burden of proof in court. Fourth, any remedial efforts can only begin after successful judicial action, which can take a long time.

In addition, if the perpetrator is unknown; if the perpetrator cannot be located, cannot afford to clean up, or declares bankruptcy and walks away from the site; or if the responsible company was dissolved long ago, section 7003 is not an effective tool.

## B. EPA ADMINISTRATION OF THE HAZARDOUS WASTE PROVISIONS OF THE RESOURCE CONSERVATION AND RECOVERY ACT: DELAYED FEDERAL EFFORT FRUSTRATES EFFECTIVE ACTION

### 1. STARTING AT THE BEGINNING: FAILURE TO CONDUCT AN ADEQUATE INVENTORY

When some 77.1 billion pounds of hazardous wastes are being produced a year and only 10 percent of them are being disposed of in an environmentally sound manner, one would think that the first step in a sound regulatory process would be to find out where all this dangerous material is going.

Unfortunately, EPA has not conducted a comprehensive inventory of hazardous waste disposal sites. At the Subcommittee's October 30, 1978 hearing, two years after RCRA was signed into law, Congressman Albert Gore (D-Tennessee) asked EPA to provide the Subcommittee with a list of all the dump sites which contain hazardous waste. At that time the Subcommittee was informed that EPA was collecting information on sites from its regional office files and the States. On November 21, 1978, EPA released a list of 103 potentially dangerous sites. This was part of its estimate that 838 sites in the country contain a significant amount of hazardous waste.<sup>36</sup> After reviewing the

<sup>36</sup> Environmental News, "EPA Lists Hazardous Waste Sites," EPA Press Release, Nov. 21, 1978. While the press release said that "638" sites contained a significant amount of hazardous waste, it was in error. EPA subsequently indicated that the correct number of sites is 838.

methodology used to develop the list and estimated number of sites, Representative Gore wrote to EPA and expressed his belief that the estimate was totally inadequate and even misleading.<sup>37</sup> Acting upon a request by Congressman Gore to analyze EPA's site survey, the General Accounting Office in testimony before the Subcommittee stated that: "... the 838 site figure is not an accurate or complete estimate and does not correctly identify those sites that are most in need of corrective action."<sup>38</sup>

The GAO cited the following deficiencies in EPA's methodology:

... EPA's regional offices developed the estimates on the basis of existing or easily obtainable information using various assumptions. For example, in providing the total number of sites containing hazardous wastes, one region estimated that one-third of all active municipal solid waste disposal sites in the region would contain hazardous wastes, while another region provided only the number of sites containing large quantities of hazardous waste and having a negative impact on public health and the environment.

In estimating the number of sites which may contain significant quantities of hazardous wastes which could cause significant imminent hazard to public health, one region provided a listing of all sites on which it had information—a total of 12—while another solicited input from the various states in the Region without, however, stipulating the assumptions on which the states were to make their estimates. A third region made its estimates as an arbitrary percentage of total estimated sites in the region. Two regions offered no estimate, citing a complete lack of information.<sup>39</sup>

The Subcommittee believes that the only way to obtain the information needed is to go directly to the generators, haulers, storers, and disposers of hazardous waste and to State and local governments and ask about the location of hazardous waste disposal sites.

The method for conducting a reliable survey of this type has already been worked out by the State of New York with the assistance of an EPA grant.

This survey, which was conducted by an Interagency Task Force of the State of New York, covered a two county area in upstate New York. It utilized, for the most part, information provided voluntarily by waste generators in the area. The task force found that in this two county area alone there were 215 disposal sites: 78 were active sites and 126 were inactive. They also found that 35 of the inactive sites had received large quantities of hazardous wastes.<sup>40</sup>

Facing a paucity of information on the location and content of hazardous waste sites throughout the country, the Subcommittee conducted its own limited survey. Requests for information concerning waste generation, waste content, transportation and disposal were mailed to the 53 largest domestic chemical manufacturers the week of

<sup>37</sup> Letter from Hon. Albert Gore, Jr. to Hon. Douglas M. Costle, Administrator, EPA, of Nov. 21, 1978.

<sup>38</sup> Testimony of Henry Eschwege, Director, Community and Economic Development Division, General Accounting Office, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 12 of the transcript.

<sup>39</sup> *Ibid.*, at p. 13.

<sup>40</sup> Draft Report, Interagency Task Force on Hazardous Wastes (March 1979), p. II-1. The figures do not total 215 because the status of 11 sites is not known.

April 16, 1979. These manufacturers were selected because the chemical industry as a whole produces some of the most toxic hazardous wastes, although by volume it is not the single largest generator of hazardous wastes produced each year. The top 53 companies represent a large portion of total chemical production in the United States and control approximately 1,600 chemical manufacturing facilities.

The survey reveals that since 1950 the approximately 1,600 facilities have dumped wastes at over 3,000 sites. Although only 31 percent of these sites were owned by the companies, 94 percent of the wastes were dumped in these on-site facilities. In 1978 alone, 66 million tons of chemical process wastes were generated by the 53 companies. From 1950 through 1978, the total was 762 million tons. The survey does not reveal what percentage of these wastes are hazardous.

These survey results clearly demonstrate the need for a national accounting of on- and off-site disposal sites ("on-site" refers to disposal or recycling of the waste by the person who generates it, either on the plant site itself or at any site owned by the generator; "off-site" refers to disposal off the plant site at a facility owned by someone other than the generator of the waste) as well as of active and inactive hazardous waste disposal sites. EPA should be conducting such a survey. It is not.

## 2. EPA HAS NOT MET THE STATUTORY DEADLINES FOR PROMULGATING REGULATIONS

The Resource Conservation and Recovery Act required the Administrator to promulgate regulations for sections 3001-3006 by April, 1978. As of the date of this Report, EPA still has not promulgated these regulations. Moreover, with regard to section 3001-3004 regulations, Barbara Blum, then-Acting Administrator of EPA, stated in an affidavit to the U.S. District Court for the District of Columbia on July 2, 1979, that it is questionable whether the regulations will be out in final form before December 31, 1979 (the D.C. District Court's deadline):

It now appears likely that we will have to repropose portions of the regulations or at a minimum seek public comment on additional technical materials and studies which will be used to support the final regulations. The preparation and clearance of the necessary Federal Register notices and the analysis of comments received will, of necessity, complicate the decisionmaking process and slow down the development of the final regulation. These problems, the magnitude of the task facing the Agency, and other pressures on us—make the promulgation of section 3001 through 3004 regulations by the Court's December 31, 1979 deadline uncertain.<sup>41</sup>

The Subcommittee has queried EPA time and again about whether it has sufficient staff and resources to promulgate the regulations on an accelerated basis. EPA has answered each inquiry by stating that everything possible to move ahead with the regulations quickly is

<sup>41</sup> The statement appears on page 2 of the affidavit which was submitted in connection with the case, *State of Illinois v. Costle*, Nos. 78-1689 et al. (D.D.C., Jan. 13, 1979). This case was brought by a number of environmental groups to force EPA action on the regulations after EPA missed its statutory deadline.



being done. However, the affidavit filed by Deputy Administrator Blum seems to indicate that this is not the case. Moreover, it suggests that Congress itself is delaying the task. On page 3 of the affidavit, Ms. Blum states:

... personnel assigned to work on the final regulations are being continually diverted to work on legislative amendments, respond to Congressional correspondence and telephone inquiries, brief Congressional staff, prepare Congressional testimony . . ."

It is difficult for the Subcommittee to believe that personnel so essential to the development of these regulations are being allowed to be "continually diverted" from their task. The Subcommittee has not been informed that this is the case and we would not condone such a practice. If there is such a problem, EPA should apply to Congress for additional personnel for pursuing its nonregulatory writing responsibilities.

The Subcommittee recognizes that Congress may have set unreasonably short deadlines for the issuance of these regulations. However, EPA has not done all it can to finalize these regulations. As the General Accounting Office observed, for example, "... EPA did not always ask for the staff and funds they should have requested" to get the job done.<sup>42</sup>

The importance of promulgating these regulations as soon as possible cannot be overemphasized. As the Environmental Defense Fund observed at the Subcommittee's October 30, 1978 hearing, as a result of EPA's failure to promulgate these regulations:

Approximately 260 million pounds a day of chemicals that cause cancer, birth defects, nerve damage and that destroy rivers and wildlife are being disposed of without Federal regulation, just as they were in 1976 when this legislation (RCRA) was passed.<sup>43</sup>

### 3. EPA FAILED TO RECOGNIZE THE NEED FOR FUNDS AND PERSONNEL FOR IMPLEMENTATION OF THE RESOURCE CONSERVATION AND RECOVERY ACT

While it must be recognized that EPA was authorized to implement RCRA at a time when the agency faced personnel freezes and serious budget ceilings, EPA nevertheless failed to recognize the importance of the hazardous waste program. Although the job that needed to be done was massive, in the first few years of the program EPA requested funding at levels far below the levels authorized in the Act, and spent considerably less than what Congress appropriated.

Budgeting in both fiscal years 1978 and 1979 was critical to meeting the deadlines stipulated in the Act. Yet EPA only asked for \$36.5 million in fiscal year 1978 for implementation of the entire solid waste program. Even though the Congress appropriated \$39.9 million, EPA only allotted \$35.8 million to the program.<sup>44</sup> For the fiscal year 1979,

<sup>42</sup> Testimony of Henry Eschwege, General Accounting Office, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 38 of the transcript.

<sup>43</sup> Testimony of Leslie Dach, Science Associate, Environmental Defense Fund, Oversight—Resource Conservation and Recovery Act, Hearing Before the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, 95th Congress, 2d session, Serial No. 95-183, at p. 352.

<sup>44</sup> EPA Justification of Appropriations Estimates, pp. SW-13, 1 (House Committee on Appropriations).

EPA also spent less than was necessary for the program. The agency asked for \$71.9 million for the entire solid waste program; received \$78.7 million, and it is estimated that it spent only \$74 million.<sup>45</sup> These requests are far below the authorized levels of \$181 million for fiscal 1978 and \$160.25 million for fiscal 1979.

While stressing the importance of regulation development EPA failed to allot sufficient resources to halt dangerous discharges from hazardous waste sites through its imminent hazard authority. In fiscal year 1978, the EPA budget for RCRA enforcement was a mere \$100,000,<sup>46</sup> which supported a staff of 5. In fiscal year 1979 EPA increased this figure to \$1 million, which supported a staff of 23.<sup>47</sup> This level of funding, however, was wholly inadequate.

The Justice Department, which seeks enforcement of cases EPA refers to them, commented on EPA's lack of law enforcement investigators at the Subcommittee's May 16, 1979 hearing:

EPA is in serious need of tough law enforcement investigators: investigators with training comparable to that of the IRS, the Customs agents, and the FBI. While a high degree of specialized technical knowledge is also necessary for these investigations, I believe that fundamental investigative techniques and good investigative instincts are equally or more important.

These investigators are needed not only to identify sites and their contents and owners and operators and former owners and operators, they are also needed to ferret out the elements of organized crime that are alleged to be involved in hazardous waste pollution. They must be willing to deal with the entire range of civil and criminal problems, from the white-collar malfeasance committed by corporate executives in the disposal of hazardous waste, to the organized crime types who are involved with the midnight dumping of hazardous waste and toxic substances into our rivers, our lakes, our wetlands, our sewers or any other convenient location.<sup>48</sup>

On June 5, 1979, Douglas Costle, Administrator of EPA, testified before the Subcommittee that he had ". . . made hazardous waste a first priority and made investigations and actions against hazardous waste sites presenting imminent hazards our top enforcement priority."<sup>49</sup> Administrator Costle indicated that EPA had shifted a large number of its personnel away from other duties and into the hazardous waste program for this purpose. However, to the Subcommittee's knowledge, no trained investigators like those discussed by Assistant Attorney General Moorman, have been recently hired by EPA to work on this matter.

In light of EPA's limited commitment until recently, it is not surprising that the Justice Department, which can only act after EPA refers a case to it, has filed only five complaints against illegal and unsafe

<sup>45</sup> *Ibid.*, at pp. SW-31, 27.

<sup>46</sup> *Ibid.*, at p. SW-33.

<sup>47</sup> *Idem.*

<sup>48</sup> Testimony of James W. Moorman, Assistant Attorney General, Land and Natural Resources Division, U.S. Department of Justice, before the Subcommittee on Oversight and Investigations, May 16, 1979, at pp. 45-46 of the transcript.

<sup>49</sup> Testimony of Douglas M. Costle, Administrator, U.S. Environmental Protection Agency, before the Subcommittee on Oversight and Investigations, June 5, 1979, at p. 42 of the transcript.

disposal practices on behalf of EPA. The first case under RCRA was not filed until December, 1978,<sup>50</sup> over 2 years after the enactment of the Act.

Until June of 1979, only one Justice Department headquarters attorney was working fulltime on hazardous waste problems. While a new hazardous waste section will have 11 or 12 attorneys as of October 1, 1979, it is not unreasonable to assume that at least 30 to 40 Justice Department attorneys may be needed to handle all the hazardous waste actions which must be taken to protect the public.

EPA's reasons for keeping the enforcement budget at this level are reflected in its fiscal year 1979 budget submission to the President. In this document EPA stated:

Anticipating that all hazardous waste regulations and the land disposal criteria will be promulgated during 1978, the 1979 solid waste program intends to shift resources to decentralize the program to the regions. This will ensure that there is at least a minimum enforcement and hazardous waste program capability in all regional offices to begin the implementation of a Federal hazardous waste regulatory program in those States which do not assume the program.<sup>51</sup>

Not only has EPA failed to promulgate hazardous waste regulations and land disposal criteria, it has provided totally inadequate technical, enforcement and financial assistance to the regions and the States.

The General Accounting Office, in testimony before the Subcommittee on June 4, 1978, indicated that although EPA's policy was to make the regional offices the "focal point for assisting the States in developing hazardous waste regulatory programs, monitoring State progress, and assuring that applications for program funds were proper and adequate [,] EPA officials in all 10 regions acknowledged, however, that they did not have the staff to carry out these responsibilities."<sup>52</sup> Regional officials stated that they needed far more staff to accomplish, even in a minimal way, their responsibilities under RCRA.<sup>53</sup> One region, for example, only had one individual assigned to this task.<sup>54</sup>

The GAO also found that EPA had not been allocating sufficient funds to the States to support the development of State hazardous waste programs. Only \$5.1 million was available for the 26 State programs GAO reviewed.<sup>55</sup> These States estimated that they needed \$9.3 million more simply to develop and operate a hazardous waste program that would meet the requirements of the Act.<sup>56</sup> The Congress, recognizing the need for providing a high level of funding to assist States in developing hazardous waste programs, authorized the expenditure of \$25 millions for each of the fiscal years 1978 and 1979.<sup>57</sup> EPA asked for no funds for this purpose in its fiscal year 1978, and requested only \$15 million for fiscal year 1979.<sup>58</sup>

<sup>50</sup> Testimony of James W. Moorman, U.S. Department of Justice, before the Subcommittee on Oversight and Investigations, May 16, 1979, at p. 41 of the transcript.

<sup>51</sup> EPA Justification of Appropriations Estimates, p. SW-3 (House Committee on Appropriations).

<sup>52</sup> Testimony of Henry Eschwege, General Accounting Office, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 9 of the transcript.

<sup>53</sup> *Idem.*

<sup>54</sup> *Idem.*

<sup>55</sup> *Idem.*

<sup>56</sup> *Idem.*

<sup>57</sup> Section 3011(a) of RCRA.

<sup>58</sup> Testimony of Henry Eschwege, General Accounting Office, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 43 of the transcript.



EPA's earlier failure to place sufficient funds in the hazardous waste enforcement program has now forced EPA to shift people from other assignments in the agency to the hazardous waste program on an emergency basis. According to Administrator Costle, EPA now has "about 100 people working full time on site investigations and enforcement."<sup>59</sup>

EPA's failure to request sufficient funding for its headquarters and regional programs and provide sufficient funding support for the development and operation of State programs, seems to indicate that it failed to recognize the significance of the hazardous waste disposal problem.

EPA clearly failed to represent properly the needs of the program for fiscal years 1978 and 1979. Limited funding has resulted in severely restricting the protection RCRA was expected to afford the public.

The Subcommittee is puzzled by EPA's actions with respect to RCRA funding and personnel levels. The Act clearly anticipated the need for major expenditures in this area and yet EPA failed to request the necessary funds and personnel. EPA's failure in this regard has slowed the implementation of RCRA substantially. A continuation of this policy of neglect cannot be tolerated.

#### 4. EPA HAS PROPOSED INADEQUATE REGULATIONS

##### *a. General background*

On December 18, 1978, EPA published proposed regulations for sections 3001,<sup>60</sup> 3002<sup>61</sup> and 3004<sup>62</sup> of RCRA. These proposed rules together with rules proposed for sections 3003,<sup>63</sup> 3006,<sup>64</sup> 3008<sup>65</sup> and 3010,<sup>66</sup> as well as recently proposed rules for sections 3005 and 3006,<sup>67</sup> form the basis of EPA hazardous waste programs. In this section we will focus our attention on proposed rules for sections 3001, 3002, and 3004.

Legislation establishing a hazardous waste regulatory program in California was signed into law in 1972. Its success was a guiding force in the creation of RCRA.

Unfortunately, EPA's proposed rules for sections 3001, 3002, and 3004 depart in major ways from the successful California approach. The State of California's critique of EPA's proposed regulations raises significant questions which must be more carefully considered before final regulations are promulgated. In the following pages we will review some of this critique as well as the comments of other State representatives and others who appeared before the Subcommittee.

##### *b. Section 3001, identification and listing of hazardous wastes*

EPA's proposed rules for section 3001 establish a means by which hazardous wastes will be defined, either by specific listing or through the characteristics of the waste. The proposed regulation identifies the following eight characteristics of hazardous waste:

<sup>59</sup> Testimony of Douglas Costle before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 43.

<sup>60</sup> 43 FR 58954-68 (Dec. 18, 1978).

<sup>61</sup> 43 FR 58969-82 (Dec. 18, 1978).

<sup>62</sup> 43 FR 58982-59028 (Dec. 18, 1978).

<sup>63</sup> 43 FR 18506-12 (April 28, 1978).

<sup>64</sup> 43 FR 4366-73 (Feb. 1, 1978).

<sup>65</sup> 43 FR 34738-47 (Aug. 4, 1978).

<sup>66</sup> 43 FR 29908-18 (July 11, 1978).

<sup>67</sup> 44 FR 34244 (June 14, 1979).

1. Ignitability.
2. Corrosivity.
3. Reactivity.
4. Toxicity (using an extraction procedure designed to determine the pollutants that could migrate from a waste when disposed in an open dump environment).
5. Radioactivity.
6. Infectiousness.
7. Phytotoxicity.
8. Teratogenicity and mutagenicity.”<sup>68</sup>

If a waste is not already labeled as hazardous through the listing procedure, a generator of waste must test it to determine if it contains hazardous features. However, the current regulations only require testing for the first four of the above-identified characteristics because EPA states that they are “the only ones for which the Agency confidently believes test protocols are available.”<sup>69</sup>

The Subcommittee disagrees with the failure to require testing for all eight characteristics. Even though there may be no simple, well-accepted tests that identify all wastes which are oncogenic, mutagenic, teratogenic, or bioaccumulate, there are currently tests which yield useful information regarding such characteristics. In fact, EPA presently employs some of these tests for screening under the Toxic Substances Control Act. While we can understand EPA’s concern that many of these tests are costly, we are more concerned about the fact that the presence of these characteristics in waste poses serious risks to health and the environment. Therefore, we recommend that EPA require testing for all eight characteristics. If the requirement would pose an undue burden on small companies, then we would recommend that companies that produce the same waste share the cost of testing or that Federal funds be used to share the burden.

The Subcommittee is also concerned about EPA’s use of an extraction procedure (EP) to test for the characteristics of toxicity. This procedure takes a solid waste, grinds it up, mixes it with a liquid solution and then observes how it leaches. It is designed to see what would happen if the waste were dumped in a sand and gravel pit with a well 500 feet away. If the extract from this process contains 10 or more times the concentration of a substance proscribed in EPA’s interim drinking water standards, then the waste is considered toxic.

Several groups have questioned whether this test actually simulates the likely characteristics of a dump site. The State of California, for example, in its comments to EPA, stated as follows:

The placement of an extraction test in such a key role for evaluating toxic wastes is questioned. It is recommended that, in some cases, wastes rather than their extracts must be directly tested for toxicity; suggested changes are included. The appropriateness of the proposed extraction procedure is questioned because of the dilution procedures used.<sup>70</sup>

<sup>68</sup> 43 FR 58950 (Dec. 18, 1978).

<sup>69</sup> *Idem.*

<sup>70</sup> Statement of Harvey F. Collins, Acting Chief, Hazardous Waste Materials Management Section, California State Department of Health Services, Attachment 1, p. 1, before the Subcommittee on Oversight and Investigations, June 19, 1979.

The Environmental Defense Fund (EDF), in its comments to EPA, has also challenged the reliability of this procedure. The EDF made this observation:

EPA's choices for all . . . the[se] parameters [of EP] are scientifically unsupported and underestimate the hazards associated with the waste tested. They make a mockery out of EPA's use of the EP as a measure of hazard.<sup>71</sup>

The Subcommittee shares this concern over whether the EP adequately simulates all the different possible combinations of wastes that could be present in landfills of differing compositions themselves. We urge EPA to consider this matter before promulgating final regulations on this subject.

The EPA also has proposed that a substance should be considered a hazardous waste if it appears on one of the following lists: EPA's Selected Cancelled and RPAR Pesticides; Department of Transportation Classification Poison A, Poison B, and ORM-A Substances; Selected Priority Pollutants; Center for Disease Control Classification of Etiologic Agents, or if it is identified on EPA's hazardous waste stream list.<sup>72</sup> The Subcommittee is concerned that EPA's proposed list leaves off wastes from a number of known carcinogens, such as asbestos and Tris. We believe that the California approach is better. It stipulates that if certain chemicals appear in the waste at levels over those set by the State, the waste must be considered a hazardous waste. California regulates the presence of over 800 chemicals in this manner.<sup>73</sup>

EPA notes that "even after promulgation of these rules neither the set of characteristics nor the list are intended by the Agency to be static. Both may be added to or changed by the Agency through the rulemaking process as information develops."<sup>74</sup>

The proposed rules note that RCRA itself provides two procedures whereby additional wastes or waste characteristics may be added. First, Section 3001 (c) provides that State governors can petition the Administrator "to identify or list a material as a hazardous waste." Second, section 7004 provides that any person may petition the Administrator for changes in the regulations.

Although EPA has built in numerous safeguards to assure that the regulations will not be "static" and that the definition of hazardous waste is flexible and will, therefore, cover the great majority of known hazardous wastes, we are concerned about EPA's failure to include a more comprehensive list of toxic substances in its regulations now. This can and should be done. We are also concerned that wastes should be tested for all 8 characteristics of hazardous waste to the greatest extent possible and that the test for toxicity be the best available one.

*c. Section 3002, standards applicable to generators of hazardous wastes*

In EPA's section 3002 proposed regulations, the agency further defines what are hazardous waste generators and what responsibilities these hazardous waste generators have under the Act. This section requires hazardous waste generators to keep records; label containers; use proper containers; supply others in the waste disposal chain with

<sup>71</sup> Comments of the Environmental Defense Fund on the Environmental Protection Agency's Proposed Regulations Implementing Sections 3001, 3002, and 3004 of the Resource Conservation and Recovery Act, (Mar. 16, 1979), pp. 9-10.

<sup>72</sup> 43 FR 58962 (Dec. 18, 1978).

<sup>73</sup> Title 22, Section 62081 (d) of the California Administrative Code.

<sup>74</sup> 43 FR 58950 (Dec. 18, 1978).



accurate information on the composition of the waste; initiate a manifest for waste generation storage, transport, treatment and disposal: and submit reports of waste generation and disposition.<sup>75</sup>

The key to effective regulation lies in broad application of the manifest requirements to generators of hazardous waste. The Act defines a "manifest" as "the form used for identifying the quantity, composition, and the origin, routing and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage."<sup>76</sup>

The manifest system is designed to track the movement of wastes and provide State hazardous waste management agencies, EPA, and others with an accurate accounting of the wastes' journey from generation to final disposal or treatment. Because the manifest forces companies to account for the waste, it is hoped that the system will encourage the use of safe disposal. By tracing the disposition of the waste through manifest records it is easier to discover if violations have indeed occurred, and who is responsible for them. Additionally, if it is determined that a certain waste product is of special concern, the manifest may be used to move precisely and move quickly to locate the waste.

Under EPA's proposed regulations, many generators of hazardous waste are exempt from manifest requirements. Absent a manifest, there is no guarantee that wastes will actually go to a permitted site. Therefore, the Subcommittee believes that exemptions should be granted only in demonstrably clear situations. We do not think that EPA's grant of a blanket exemption to any generator of hazardous waste who produces less than 100 kilograms of waste a month fits into this category. This exemption will apply without regard to the toxicity or potential danger posed by these wastes.

EPA's reason for this exemption is that it:

—will allow control of 99.5 to 99.9 percent of potentially hazardous industrial waste while at the same time excluding up to 60 percent of the generators in the manufacturing industry.<sup>77</sup>

EPA notes that these generators are still required to dispose of their hazardous waste properly and comply with other safe disposal requirement in the regulation.<sup>78</sup>

The Subcommittee is concerned that small generators who produce especially dangerous hazardous wastes will not be adequately regulated. The amount of waste produced should not be the only criterion considered. The degree of hazard posed by the waste generated is, in the Subcommittee's opinion, much more important. Simply exempting all small generators, therefore, is not satisfactory.

Further, although RCRA clearly promotes resource recovery such as the re-use of waste oil, the Subcommittee is concerned that EPA's proposed regulations will not properly control the use of waste oil contaminated with toxic substances. In testimony at the June 18, 1979 hearing of the Subcommittee, Robert A. Johnson, Vice President of

<sup>75</sup> 43 FR 58969 (Dec. 18, 1978).

<sup>76</sup> Section 1004(12) of RCRA.

<sup>77</sup> 43 FR 58969 (Dec. 18, 1978).

<sup>78</sup> *Idem*.

Browning-Ferris Chemical Services, Inc., discussed the deficiency of the proposed regulations on recyclable materials:

We have found in our system in the past there's been a weakness when we are involved with materials that are reentering a usable service such [as] waste oils. Steps have been and are being taken to correct that.

I think that if you review the regulations as proposed under RCRA, that same weakness exists in those current draft regulations, and that any generator—and we could be listed as a generator who generates waste oil—can contract your responsibilities for properly handling those oils and dispose of those oils to any waste oil dealer or hauler.

Mr. WILSON [D-Texas]. You cannot contract?

Mr. JOHNSON. It can be done under RCRA and we have commented, in fact, that we don't agree with that. So there is a weakness in our system—has been in the past—which is being corrected, but we think that it is not something that was totally singular in our company as being a problem.

There has been a great interest in recovering material and reusing it, and there has been a weakness in not giving those materials the same scrutiny as those that are being disposed of in some final disposal place. We are trying to correct that weakness.<sup>79</sup>

Moreover, the Texas system allows, as will the EPA system, the trans-shipper to commingle wastes for re-use. Without proper book-keeping or analysis, it is virtually impossible to determine the content of the new commingled product.

In testimony before the Subcommittee on June 5, 1979, Dick Whittington, Deputy Director of the Texas Department of Water Resources stated:

One flaw in the present shipping control system is the tendency for the identity of the waste to be lost when wastes are transferred from one receiving facility to another. The Department staff is currently examining ways to correct this flaw. The planned EPA manifest system under the Resource Conservation and Recovery Act hazardous waste program contains this same potential flaw, as well as a number of others. The Department in its recent comments on these proposed rules (40 CFR Part 250, Subpart B, Federal Register, December 18, 1978) outlined recommendations for modifications.<sup>80</sup>

Clearly, the regulations proposed under section 3002 are in need of revision. Although the Subcommittee hopes that EPA will move swiftly to promulgate final regulations, we do not believe that there is anything to be gained by promulgating less than adequate regulations.

*d. Section 3004, standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities (TSDF's)*

The proposed regulations under this section of RCRA are probably the most complex and controversial of any of the proposed regulations. As EPA points out in its introduction to this set of proposals:

These standards must include requirements for site location and design, operating methods, contingency plans, continuity of operation, personnel training, financial responsibility, recordkeeping, reporting, monitoring, inspection, and compliance with the Subpart B manifest system and the Subpart E permit system.<sup>81</sup>

<sup>79</sup> Testimony of Mr. Johnson before the Subcommittee on Oversight and Investigations, at pp. 95–96 of the transcript.

<sup>80</sup> Statement of Dick Whittington before the Subcommittee on Oversight and Investigations, June 5, 1979, at pp. 6–7 of the transcript.

<sup>81</sup> 43 FR 58982 (Dec. 18, 1978).

The Subcommittee agrees, to a great extent, with the views of the State of California that the proposed standards are geared toward regional off-site hazardous waste facilities and so would act to discourage the necessary variety of hazardous waste facilities:

The proposed standards will tend to discourage the continued use of the variety of hazardous waste facilities to effectively and efficiently manage the broad range of hazardous waste streams. The comprehensive coverage of the regulations and the extreme detail provided, suggest that the standards were developed for application to a regional off-site hazardous waste facility of significant size and resources, and one which is capable of handling a number of hazardous wastes. This may result in somewhat of a self-fulfilling prophecy in that the standards do not fit well when applied to a small, single waste facility or a special purpose facility and will tend to discourage the operation of such facilities even though they serve a useful purpose and provide adequate protection of health and the environment.<sup>82</sup>

The strictness of the rules may make it impossible for all but massive, well-financed and closely managed regional sites to operate. We should note that although the Subcommittee supports strong regulation of these facilities, the Act certainly did not anticipate that all TSDF's would be abandoned or rendered inactive as a result of the regulations.

Moreover, if the TSDF requirements increase the costs to a point where these services become painfully expensive, more companies may be tempted to find solutions outside of the regulatory scheme. Flexibility is the key here, while protection of the public is the overriding concern. We believe that both of these goals can be achieved.

The Subcommittee also shares the two concerns that the State of New York has expressed—that (1) the standards for landfills would allow migration of chemicals long before the end of their toxicity, and (2) the operators of dump sites would not be required to care for the sites long enough after their closing to protect the public.

As John Shea, Assistant Attorney General of the State of New York, testified before the Subcommittee on May 16, 1979:

The Attorney General's office recently filed 100 pages of comments on the U.S. EPA's proposed regulations. The two major flaws in those regulations are that the standards for landfills would allow migration of chemicals to occur after only 50 years, which is merely a fraction of the period of toxicity for these materials. Second, the operators of dump sites would be required to care for the sites for only 20 years after the dumps are closed. Love Canal has proven that to be far too short a time. What this means is that EPA's regulations will permit future Love Canals."<sup>83</sup>

The Subcommittee believes that these concerns deserve careful analysis.

In its comments to EPA, the Environmental Defense Fund expressed a similar concern about post-closure care:

In nearly all cases, waste in a TSDF will not have decayed into nonhazardous material within 20 years. The chemical half-lives

<sup>82</sup> Statement of Dr. Harvey F. Collins, California State Department of Health Services, Attachment 1, p. 1, before the Subcommittee on Oversight and Investigations, June 19, 1979.

<sup>83</sup> Testimony of John F. Shea III, Assistant Attorney General, State of New York, before the Subcommittee on Oversight and Investigations, May 16, 1979, at p. 89 of the transcript.



of most toxic chemicals are such that significant amounts will remain in the site for lengthy periods of time. There are no data either from the laboratory or from the field, to support a contention that design features of a TSDF as required by section 3004 will continue to protect the environment for the amount of time the TSDF contains hazardous material.<sup>84</sup>

There is little doubt that the contents of many hazardous waste disposal sites will remain dangerous for decades after the maintenance requirements of EPA's proposed regulations have expired. Post-closure care as well as monitoring is essential. It seems unlikely that a regulation requiring that these operations be continued for only a finite period will fully guarantee against future contamination from these sites.

Moreover, here again the degree of hazard posed by the site contents should be taken into consideration. The Subcommittee knows of no language in the Act that would preclude EPA from adjusting its requirements for landfills and post-closure care according to the degree of hazard posed by the contents of the site.

The Subcommittee also is concerned about the provisions in these proposed regulations which require comprehensive monitoring for leachate and groundwater contamination only yearly. It is entirely possible that comprehensive monitoring on this basis may not discover migration problems until they have inflicted major damage. The monitoring requirements, therefore, should relate to the degree of hazard presented by the contents of the site. If it is minimal, then the monitoring requirements should be less stringent. If, on the other hand, the site contains PCB's or other materials which do not easily biodegrade and which are extremely toxic for long periods of time, then comprehensive monitoring should take place more frequently, and the duration of monitoring should be extended.

Finally, in the proposed regulations, EPA discusses the use of section 3004 with regard to the issuing of interim permits for existing TSDF's. These permits would allow TSDF operators time to act to make sure their facilities comply with the regulations. Under EPA's interim status permit system, TSDF's will only have to meet "selected minimal requirements."<sup>85</sup> Here again, the specific wastes accepted or already disposed in the site should dictate the degree to which the regulations in section 3004 should apply. Allowing a noncomplying site to continue to operate under the assumption that its owners or operators will bring it into compliance in a reasonable period of time is, at best, a risky business.

While Congress provided in RCRA that all disposal sites that existed on October 21, 1976, were entitled to interim permit status, it also authorized EPA to set standards for all TSDF's. Although the Subcommittee believes that an interim permit regulatory program is essential, the fact that these permits are "interim" should not dictate that the requirements for obtaining them be lax. As EPA points out, "we estimate that completing the issuance of all [permanent] permits

<sup>84</sup> Comments of the Environmental Defense Fund on the Environmental Protection Agency's Proposed Regulations Implementing Sections 3001, 3002 and 3004 of the Resource Conservation and Recovery Act (Mar. 16, 1979), pp. 70-71.

<sup>85</sup> 43 FR 58984 (Dec. 18, 1978.)

will take several years" and further that, "many prospective permittees will have interim status for an extended period of time."<sup>86</sup> It is, therefore, essential that at least those who choose to continue to operate sites for the disposal of the most dangerous wastes be placed under stronger regulations. Without sufficient controls, the interim permits could simply become licenses for illegal disposal or licenses for the establishment of future abandoned sites. The Subcommittee recognizes that an effective interim permit program may require greater EPA resources. If that is the case, we feel that money to run the program would be money well spent.

*e. General conclusion*

The Subcommittee concludes that EPA's proposed regulations need additional adjustment. We recognize that establishing regulations of this nature is a very difficult task. Considering the time and manpower devoted to this task, we believe EPA has done a reasonably good job. However, the deficiencies in the proposed regulations, if allowed to stand, will ultimately delay the implementation of regulations sufficient to protect public health and the environment.

Furthermore, we do not believe EPA has examined California's hazardous waste program closely enough. We believe that the California approach of basing the management of hazardous waste upon the degree of hazard presented should be incorporated in EPA's regulations to the maximum extent feasible. This approach will provide the system with more flexibility and will place greater regulation where it is needed.

5. EPA'S FAILURE TO PROMULGATE REGULATIONS IS SIGNIFICANTLY DELAYING THE ESTABLISHMENT OF HAZARDOUS WASTE PROGRAMS AT THE STATE LEVEL

EPA's failure to promulgate regulations in a timely fashion has adversely affected State activities to establish hazardous waste disposal programs.

The problem is that most State laws are presently inadequate to solve the problem yet the States are hesitant to act before the EPA regulations are promulgated for fear that they will have to revise their statutes again to conform with EPA standards. As William Scott, Attorney General of the State of Illinois, testified before the Subcommittee:

State statutes are presently uniformly inadequate in the control they exercise over hazardous chemical wastes . . . In order to assume full authorization to administer RCRA, most States will need to enact new legislation, and many States are eager to do so. Most States are waiting before taking any action because we do not know what the federal program with which we will have to comply will look like.<sup>87</sup>

Mr. Peter Millock, testifying on behalf of the State of New York, reached the same conclusion:

<sup>86</sup> *Idem.*

<sup>87</sup> Testimony of William J. Scott, Attorney General, State of Illinois, Oversight—Resource Conservation and Recovery Act, Hearing Before the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, 95th Congress, Second Session, Serial No. 95-183, at p. 375.

Our program is pretty much a dead letter, or at least that part of the program which is based on the manifest system and the cradle-to-grave tracking of wastes is a dead letter. So, we are waiting for EPA regulations.<sup>88</sup>

These observations were echoed by the General Accounting Office in its testimony before the Subcommittee in June of this year:

It is reasonable that the industry and states will not gear up to do anything as long as they realize that the pending regulations are in a state of flux and may change.<sup>89</sup>

The experience of New Jersey in acting before EPA has completed its regulations demonstrates the need for prompt EPA action. The State of New Jersey recently instituted a strong hazardous waste regulatory system and took vigorous action against unsafe sites. Is New Jersey's waste now being safely disposed? No. To the contrary, some 70 percent of the waste generated in New Jersey now goes to Pennsylvania, where regulations are not as stringent. The General Accounting Office explained that the disposal industry, anticipating the development of a strong regulatory system in New Jersey, began to shift its shipments to Rhode Island where regulations were weak. Then Rhode Island tightened its controls, forcing the disposal industry to move to Pennsylvania.<sup>90</sup>

Failure to promulgate national regulations, therefore, perpetuates the "weakest link" problem which results from differing levels of regulation in each state. Without national standards, individual States can do little to eliminate inadequate hazardous waste disposal practices.

State programs to control hazardous wastes are not the only casualties of this delay; the private disposal industry also has suffered. In testimony before the Subcommittee on April 5, 1979, representatives from Rollins Environmental Services, Inc., a leader in the development of hazardous waste incineration facilities, stated that after Rollins had expended some \$250,000 in an attempt to develop a plant site in North Carolina, it dropped the entire project upon learning that North Carolina couldn't issue it an operating permit because North Carolina's regulations were tied to the yet unpromulgated Federal regulations.<sup>91</sup>

In sum, EPA's delayed action has rippled through the States. So long as EPA has not promulgated national standards under RCRA, most States have a disincentive to act to upgrade their hazardous waste disposal programs and many will not act. Further, our hearings suggest that those States that do act vigorously may have relatively little impact on the problem because many companies will simply ship their wastes to States with fewer restrictions. The solution to these problems is simple and urgent—EPA must promulgate its hazardous waste disposal standards as soon as possible.

<sup>88</sup> Testimony of Peter Millock, Assistant Counsel with the New York State Department of Environmental Conservation and Director and Counsel to the Interagency Task Force on Hazardous Waste, before the Subcommittee on Oversight and Investigations, Mar. 21, 1979, at p. 188 of the transcript.

<sup>89</sup> Testimony of Wilbur Campbell, Associate Director, Community and Economic Development Division, General Accounting Office, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 22 of the transcript.

<sup>90</sup> Testimony of Frank Polkowski before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 29 of the transcript.

<sup>91</sup> Testimony of William B. Philipbar, Jr., President, Rollins Environmental Services, Inc., Bridgeport, N.J., before the Subcommittee on Oversight and Investigations, Apr. 5, 1979, at pp. 132-33 of the transcript.



## C. DEFICIENCIES OF THE RESOURCE CONSERVATION AND RECOVERY ACT

### 1. RCRA DOES NOT PROVIDE FOR REGULATION OF ABANDONED SITES

The Resource Conservation and Recovery Act empowers the Administrator to abate dangerous discharges into the air or water, and to force remedial action if materials stored or disposed at site in some other way pose an imminent hazard to public health and the environment. RCRA does not, however, provide funds either for emergency measures to abate and contain the health threat posed by abandoned sites, or for a permanent solution to such site problems. In drafting the Act, Congress simply did not anticipate these problems.

The term "abandoned site" is used in this report to mean an inactive hazardous waste disposal or storage facility which cannot be traced to a specific owner or whose owner has subsequently gone bankrupt or is otherwise incapable of providing the money necessary to make the site safe. The most frequent situation is that where the owner lacks the funds to make the site safe.

Abandoned sites, by their nature, become orphans of the State and, therefore, require that State, local and Federal governments expend funds to abate the danger they pose. Testimony before the Subcommittee clearly indicated that hundreds and perhaps thousands of these sites exist throughout the country and that the number continues to grow daily.

The Resource Conservation and Recovery Act of 1976 creates a prospective system of regulation, and not a retrospective one. Congress did not anticipate the need to take action against past disposal site problems and, therefore, except for the imminent hazard provision, RCRA does not provide the Administrator with congressional guidance concerning what action should be taken when a site of this nature is discovered.

### 2. RCRA DOES NOT GIVE EPA OR THE DEPARTMENT OF JUSTICE SUBPOENA POWER

There is no provision in the Resource Conservation and Recovery Act providing EPA or the Justice Department with the power to subpoena documents or persons suspected of illegal or inadequate hazardous waste disposal practices.

Mr. James Moorman, Assistant Attorney General, Land and Natural Resources Division, U.S. Department of Justice, testified as to EPA's uncertainty about using powers under the Toxic Substances Control Act to react to violations of RCRA:

Well, this is a tricky subject. They (EPA) do have a pre-filing subpoena power under TSCA. But the substantive remedies provided under RCRA are superior to the remedies under TSCA for waste disposal. EPA feels very uncertain about using the subpoena power on one statute in order to make a case under another statute. They feel the need for clarification.

I should also add at that time subpoena power resides in the administrator. He would have to ask me (Justice Department) to utilize it on his behalf under TSCA.<sup>92</sup>

<sup>92</sup> Testimony of James W. Moorman, U.S. Department of Justice, before the Subcommittee on Oversight and Investigations May 16, 1979, at pp. 47-48 of the transcript.

While the Subcommittee believes that EPA may use provisions under other acts, including the subpoena authority under the Toxic Substances Control Act,<sup>93</sup> to obtain materials or depose individuals, it agrees with Justice Department and EPA officials that the granting of subpoena authority to both EPA and the Department of Justice under RCRA itself would eliminate the present complications and greatly improve the government's ability to enforce the Act.

### 3. INACTIVE DISPOSAL IS NOT SPECIFICALLY CONSIDERED

Although RCRA directs the Administrator to develop standards for generators, transporters, storers, and disposers of hazardous waste, it does not require these persons to reveal the existence of, or monitor possible pollution emanating from, inactive waste disposal facilities. Specific language does not exist in RCRA requiring companies to come forward with information which might lead to the discovery of potentially dangerous situations before they become disasters. Except where EPA can establish that these sites pose an imminent hazard, there is no program contemplated in the Act for controlling this problem.

The Environmental Protection Agency has indicated that there are over 272,000 generators of waste<sup>94</sup> and some 30,000 hazardous waste disposal sites which will come under EPA's regulatory program. Just how many of these sites are inactive is unknown. However, there is good reason to believe that responsible parties can be found to inventory and monitor them. Thus, Administrator Costle informed the Subcommittee that 80 percent of the hazardous waste dumped by these generators is dumped or in some manner disposed of or treated on-site.<sup>95</sup> The Subcommittee's survey of the 53 largest domestic chemical companies is consistent with this estimate in finding that 94 percent of the wastes of these companies since 1950 is disposed of on-site.

The Subcommittee has received testimony indicating that the failure to regulate inactive facilities can no longer be overlooked. For example, at the Subcommittee's hearing on June 19, 1979, the Subcommittee shared information with Dr. Harvey Collins of the California Department of Health Services concerning a waste disposal facility at Lathrop, California, owned and operated by Occidental Chemicals. Documents obtained by the Subcommittee from the Securities and Exchange Commission indicated that Occidental's dumping of pesticide wastes on-site had resulted in significant groundwater contamination in the area. Occidental had never informed the State that it had been dumping pesticide wastes on its property or that the pesticides had contaminated local groundwater.

As part of the Subcommittee's review of Occidental's waste disposal practices, the Subcommittee received testimony of major on-site disposal problems at Occidental facilities in New York, Louisiana, Michigan and California. As noted in the findings section, these practices were unsafe when compared to today's generally accepted practices. The record indicates that generally the same disposal practices were used on-site as were used off-site; therefore, on-site

<sup>93</sup> Toxic Substances Control Act, Public Law 94-469 (Oct. 11, 1976).

<sup>94</sup> 43 FR 58946 (Dec. 18, 1978).

<sup>95</sup> Testimony of Douglas M. Costle, Administrator, EPA, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 84 of the transcript.

facilities may result in the same, if not more serious, negative environmental impacts.

The California example clearly indicates the need for on-site inventories and continual monitoring of inactive facilities, whether they are off-site or on-site. Even though inactive on-site facilities may not be in close proximity to residential areas, potential groundwater, surface water and air contamination still pose a significant hazard to the people who work at the facilities and to the surrounding population. We are especially concerned with the possibility that leachate from these facilities' dump sites, lagoons and holding ponds may contaminate local groundwater aquifers (in general, "aquifer" means a geological formation that is capable of yielding usable quantities of groundwater to wells or springs). If this occurs, drinking water sources many miles away could become contaminated without the knowledge of the affected persons. Additionally, without knowledge of the disposal of materials which may subsequently contaminate water supplies in inactive sites, government agencies and the public cannot take appropriate action to force the party responsible for the problem to abate the discharges and compensate the injured parties.<sup>96</sup>

#### 4. RCRA DOES NOT PROVIDE ADEQUATE FUNDS FOR STATE HAZARDOUS WASTE PROGRAMS

As noted earlier, the Resource Conservation and Recovery Act anticipates that the States will take the lead in regulating the transportation, storage, treatment and final disposal of hazardous waste products. The authors of the Act, realizing that regulatory programs for the control of hazardous wastes would be inherently expensive, authorized expenditures of \$25 million in each of the fiscal years 1978 and 1979 for "grants to States for purposes of assisting the States in the development and implementation of authorized State hazardous waste programs."<sup>97</sup>

Testimony before the Subcommittee clearly indicated that this regulatory program is very expensive<sup>98</sup> and that \$50 million is entirely inadequate to do the job.

The General Accounting Office informed the Subcommittee that current State programs to manage hazardous wastes are not adequate because they lack sufficient funds and personnel.<sup>99</sup> Moreover, 16 out of the 26 States surveyed by GAO indicated that they could operate hazardous waste management programs only if they are assured adequate Federal funding.<sup>100</sup> The GAO further stated that if funds are not made available "it is unlikely that hazardous waste programs will ever be effectively implemented."<sup>101</sup>

Without additional Federal funding support, it will be impossible for many States to carry out an effective hazardous waste disposal

<sup>96</sup> While EPA lacks authority to regulate inactive sites, it does have the authority to regulate inactive portions of active sites.

<sup>97</sup> Section 3011(a) of RCRA.

<sup>98</sup> Testimony of Henry Eschwege, Director of the Community and Health Development Division, GAO, before the Subcommittee on Oversight and Investigations, June 4, 1979, at p. 7 of the transcript.

<sup>99</sup> *Idem*.

<sup>100</sup> *Ibid.*, at p. 10.

<sup>101</sup> *Ibid.*, at p. 11.



regulatory program. It is essential, therefore, that the Federal Government provide more funding to States. If it does not, the Federal Government will have to face the very real possibility that the Administrator will have to assume the responsibilities for the regulation of hazardous waste disposal in those States.

The GAO observed that the "only alternative funding source would seem to be a fee system where a charge is imposed on the disposer and transferred to the State to support program operating costs."<sup>102</sup> The States of Maryland and California both use a fee system to obtain at least partial funds for the operation of their hazardous waste regulatory programs. Representatives from both States testified that without the fee system they probably could not fund a hazardous waste program. Moreover, neither State reported major opposition on the part of local generators to pay the fees. In California, the fee system is even actively supported by the California Manufacturer's Association.<sup>103</sup>

The Subcommittee believes that one way of assuring that sufficient funds are provided to the States to carry out a regulatory program for hazardous waste is through use of a fee system similar to the fee systems used by the States of California and Maryland.

In sum, adequate sources of funds for State hazardous waste disposal must be found. If they are not and a State cannot, because of insufficient funds, manage a regulatory program which is equivalent to the standards established under RCRA, EPA is required by RCRA to take over the management of the program in that State. EPA has estimated that such Federal regulation would cost the Federal Treasury about \$24 million a year for each of the first 5 years the Government ran the program.<sup>104</sup>

## V. RECOMMENDATIONS

### A. GENERAL RECOMMENDATIONS FOR EPA ACTION

1. EPA SHOULD TAKE ALL STEPS NECESSARY TO PROMULGATE HAZARDOUS WASTE DISPOSAL REGULATIONS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT AT THE EARLIEST POSSIBLE DATE

This Report is being published on the third anniversary of the enactment of RCRA. The Act recognized that speedy promulgation of regulations was the cornerstone to effective regulation of the disposal of hazardous wastes; therefore, it required EPA to promulgate regulations within 18 months of the date of enactment of RCRA. April 21, 1978, passed without any final regulations and with precious few proposed regulations. Now, 3 years later, we are still awaiting the promulgation of the first hazardous waste disposal regulations.

The Subcommittee recognizes that the 18-month deadline may have been somewhat unrealistic in light of the complex policy issues and difficult technical questions that had to be answered before the regulations could be promulgated.

<sup>102</sup> *Idem.*

<sup>103</sup> Testimony of Dr. Harvey F. Collins, California State Department of Health Services, before the Subcommittee on Oversight and Investigations, June 19, 1979, at p. 30 of the transcript.

<sup>104</sup> Implementation of Resource Conservation and Recovery Act, Subtitle C Programs, Resource Requirement Summary (EPA, Mar. 1, 1979).

Nevertheless, we strongly believe that EPA could have completed this task by now had it given the program the priority the Congress intended it to have and requested the necessary funds and personnel.

We are "underwhelmed" by Deputy Administrator Blum's attempt to blame the delay on the Congress by stating (to the Federal court listening to why EPA had not complied with the statutory deadlines) that the EPA personnel assigned to work on the final regulations are constantly "diverted" from their work by congressional inquiries.

The Subcommittee believes that it is time for EPA to put aside the excuses and assign the necessary staff and resources to expedite the promulgation of all major hazardous waste disposal rules. We urge EPA to assess its needs and then, if necessary, transmit a request for additional funds to the Congress as soon as possible.

Furthermore, we recommend that EPA substantially increase its regional resources to assist States in developing programs in anticipation of the promulgation of the final regulations. Such action will result in a smooth and expeditious implementation of the regulations through State programs.

Finally, while the Subcommittee believes that the EPA effort must be accelerated, we also are concerned that the regulations afford the public the necessary protection from inadequate disposal of hazardous wastes. A later section of the recommendations contains a number of revisions to the proposed regulations that the Subcommittee feels are needed to afford the proper protection. Nevertheless, a well-staffed EPA is the best guarantee that good regulations will be promulgated in the shortest possible time.

## 2. EPA SHOULD CONDUCT AN INVENTORY OF ALL HAZARDOUS WASTE DISPOSAL SITES

EPA has estimated that some 77.1 billion pounds of hazardous wastes are generated each year; that only 10 percent of that amount is disposed of in an environmentally safe manner; and that there may be as many as 30,000 hazardous waste disposal sites in the Nation. Despite the fact that EPA has the authority to conduct an inventory of these sites and their contents, EPA has made no coordinated effort to locate these sites and determine what they contain. This information is critical to determine both enforcement and clean-up priorities. We recommend that EPA conduct a comprehensive site survey as soon as possible.

An inventory of hazardous waste dump sites should include questions concerning the location, amount of waste, waste content and ownership of each site. We recommend that EPA utilize a similar methodology as that employed by the Subcommittee.

The Subcommittee conducted a limited site survey between April and July of this year. Our survey was mailed out to the 53 largest domestic chemical manufacturers, who were requested to provide information concerning the disposal of their hazardous wastes over the last 30 years at each of their facilities. The Subcommittee requested information on the exact location of each disposed site used or the name of the hauler, if the location of the site was not available. We also asked for a general description of the waste disposed of, the amount,

and information on the ownership of each site. Companies were required to transmit this information back to the Subcommittee within 60 days.

The Subcommittee received 100 percent compliance with the questionnaire. The industry did not, to our knowledge, find the exercise either unnecessary or especially burdensome. Moreover, the survey yielded a great deal of valuable information. For example, we learned that the approximately 1,600 facilities surveyed had contributed wastes to over 3,000 disposal sites. A report on the other aggregate statistics developed and the implications of those numbers will be published in a separate report within a few weeks of the publication of this report.

One of the advantages the Subcommittee had, however, which EPA does not have under RCRA, was the ability to use subpoena power to obtain this information from any company had any of them refused to comply. That is one of the reasons why the Subcommittee recommends in a later section that RCRA be amended to give EPA this authority. In the meantime, we recommend that EPA make every effort to forward survey forms to all potential hazardous waste generators before next spring.

## B. RECOMMENDED SPECIFIC CHANGES IN PROPOSED REGULATIONS

Although we believe that EPA must promulgate all final regulations under subtitle C of RCRA as soon as possible, we also believe that the proposed regulations require substantial changes in both regulatory approach and technical detail.

In general, we recommend that EPA more carefully consider regulating on the basis of the degree of hazard posed by the waste generated. Clearly some distinctions may be made based upon the characteristics of the waste—for example, corrosivity v. toxicity—as well as upon the degree of toxicity. More dangerous wastes will require more care and attention before, during and after disposal than less dangerous wastes. In addition, of course, EPA should also look at such things as the quantity of the waste, how it reacts to other wastes at a particular site, and the nature of the site, its leaching possibilities and its location vis-a-vis people and groundwater supplies. We believe that a regulatory system based on degree of hazard would properly reflect one of the legislative purposes of RCRA—to place greater emphasis on the regulation of wastes which may pose a hazard to man and the environment.

Such a regulatory system would allow both government and industry greater flexibility in choosing appropriate methods to solve this serious problem. We recommend that EPA carefully consider this approach.

### 1. WITH RESPECT TO SECTION 3001, IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

*a. The regulations should require wastes to be tested for radioactivity, infectiousness, phytotoxicity, and teratogenicity and mutagenicity*

The proposed regulations would require generators of wastes to test them for ignitability, corrosivity, reactivity, and toxicity only.



Although the regulations also identify radioactivity, infectiousness, phytotoxicity, and teratogenicity and mutagenicity as characteristics of hazardous waste, they do not require that wastes be tested for such characteristics because they do not believe that test protocols are available.

To the contrary, the Subcommittee believes that there are presently tests which yield useful information about these four characteristics. At the same time, we recognize that some of these tests are quite costly. Therefore, we recommend that EPA require that wastes be tested for all eight characteristics; however, if such testing would place an undue burden on small companies, its costs should be shared with either the Federal government or other generators of the same waste (as is permitted under section 4 of the Toxic Substances Control Act).

*b. The regulations should modify the use of an extraction procedure to test for toxicity*

The main difficulty with using an extraction procedure to test for toxicity is that the procedure is based on certain assumptions about the properties of the site where such waste will be dumped. The Subcommittee feels that a waste should be defined as hazardous on the basis of a test designed on the assumption that the waste will be disposed of in the worst possible environment. If that is not possible to do accurately, then the wastes themselves should be tested. Thereafter, the regulation of a particular waste can be treated differently depending upon the properties of the actual site at which it will be dumped.

*c. The regulations should include a more comprehensive list of substances that may be classified as toxic and, therefore, hazardous*

A list of substances that are suspected carcinogens, teratogens, mutagens, and other chronic as well as acutely toxic chemicals should be defined as hazardous wastes at this time. This is the approach taken by the State of California in listing over 800 chemicals.

The Subcommittee believes that such a list should be included in the final regulations. Thereafter, if companies wish to further determine the degree of hazard posed by the waste streams or challenge the presumption that their wastes are hazardous, then they can apply to EPA for testing of their particular waste.

2. WITH RESPECT TO SECTION 3002, STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

*a. The regulations should eliminate the exemption for generators of 100 kilograms or less of hazardous waste a month*

The Subcommittee believes that a generator of hazardous waste should be exempt from the regulations only if the degree of hazard posed by its waste is insignificant.

*b. The regulations should require trans-shippers of hazardous waste to keep a daily log of all materials contained in their tanks, and assure that the manifest system for recycled materials does not stop before the point of final disposal*

Presently, some wastes are not sent directly to the final disposal site. Instead, they are sent to an intermediate stop where they are commingled with other wastes before they are sent to the final disposal

site. The commingling frustrates the ability of a manifest system to trace wastes from their generator to their final resting place. This problem can be minimized by requiring the trans-shippers of hazardous wastes to keep a daily log of all materials on hand. Further, the manifest delivered to the final disposition site must designate the type and quantity of all wastes by their original generator. In this way, wastes can be traced from their generator to the final disposal site.

The Subcommittee also is concerned about what happens to so-called recycled materials that go back into the environment. The Subcommittee found out in hearings on toxic road oil in Texas that some "recycled" wastes have not been adequately treated. Since the manifest stopped when the wastes reached a person for recycling, it was impossible to trace wastes beyond that point. Therefore, we recommend that the proposed regulations be revised to require the testing of all recycled waste for toxicity if such wastes will be disposed of in the environment and to require that all hazardous waste manifests, including for recycled materials, carry through from the generator to the place of final disposal.

### 3. WITH RESPECT TO SECTION 3004, STANDARDS APPLICABLE TO OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

*a. The requirements for disposal site construction, management, trust, closure, post-closure, etc. should be based on the degree of hazard posed by the waste allowed to be dumped, treated, stored, or incinerated at the facility*

Requirements for disposal site care should be based upon two factors—(1) the properties of the site, and (2) the properties of the wastes to be disposed of at the site. With respect to the properties of the site, one must look at such things as the composition of the ground and its location vis-a-vis water supplies. A site that is composed of porous materials and is located near an area's groundwater supply clearly cannot take very hazardous wastes, if any at all. On the other hand, a properly constructed site made of non-porous materials located far away from the groundwater supplies can take more hazardous materials and will need less supervision.

With respect to the properties of the wastes to be disposed of at the site, if the wastes are highly toxic, not subject to biodegradation and are very soluble in water, then especially strict requirements should be employed. On the other hand if it can be proved that the wastes intended to be used in the site are only mildly toxic, easily biodegradable and are not very soluble in water, the requirements should be less restrictive.

The Subcommittee also is concerned that some wastes are so resistant to biodegradation and so persistently toxic that EPA should consider prohibiting their disposal in landfills altogether. Similarly, EPA might consider requiring certain wastes to be incinerated.

Overall, we think that a degree of hazard approach will encourage expenditures where they are needed and save money where additional expenditures might provide an unnecessarily high level of protection.

*b. EPA should require more comprehensive monitoring for leachate and groundwater contamination*

The stipulation that a post-closure care program last only 20 years should be changed. EPA should consider requiring post-closure care of over 20 years where the composition of the waste in the site requires a longer period of care to assure its safety.

*c. EPA should require more comprehensive monitoring for leachate and groundwater contamination*

The EPA regulations would require comprehensive monitoring yearly for leachate and groundwater contamination. The Subcommittee believes that such an approach would require insufficient monitoring for highly dangerous materials and possibly too frequent monitoring for minimally hazardous wastes. Therefore, we recommend that the regulations provide for quarterly monitoring for wastes that do not easily biodegrade and are extremely toxic for long periods of time and consider the possibility of less frequent monitoring for wastes that biodegrade quickly and lose their toxicity in short periods of time.

### C. RECOMMENDATIONS FOR STATUTORY CHANGES

#### 1. LEGISLATION SHOULD BE ENACTED TO PROVIDE EPA AND THE DEPARTMENT OF JUSTICE WITH SUBPOENA AUTHORITY UNDER RCRA

The failure to give EPA subpoena authority under RCRA may force it to use other environmental laws such as the Toxic Substances Control Act to compel companies to produce either oral or written responses to their questions. Such a system would be wasteful and would mitigate against swift actions to protect public health and the environment. Therefore, we recommend that Congress swiftly enact an amendment to RCRA providing both EPA and the Department of Justice with subpoena authority under this act. Such a provision is contained in H.R. 3994, the Resource Conservation and Recovery Act Amendments of 1979, introduced by Congressman James Florio (D-New Jersey).

#### 2. LEGISLATION SHOULD BE ENACTED TO INCREASE FUNDING AND PERSONNEL ALLOCATION FOR EPA AND THE DEPARTMENT OF JUSTICE FOR RCRA ENFORCEMENT ACTIVITIES; THE PROVISION OF GRANTS TO STATE ATTORNEYS GENERAL OFFICES FOR RCRA ENFORCEMENT ACTIVITIES ALSO SHOULD BE CONSIDERED

Congress should increase appropriations to both EPA and the Department of Justice for expanded RCRA enforcement programs. At least 50 additional positions are needed now within EPA, including headquarters and field positions. Emphasis should be placed on establishing a core of highly trained investigators who will specialize in solving hazardous waste problems.

The Department of Justice's Land and Natural Resources staff should be substantially increased. An additional 30 staff attorney positions should be allocated as soon as possible to the Department in order to assure more swift and effective enforcement of the present imminent



hazard provisions of RCRA. Swift and effective enforcement will not only deter future violations which threaten public health and the environment, but it will also return monies to the Treasury for violations of the Act (through recovery from the violator) and encourage companies to clean up problem sites before they are subject to costly litigation with the Federal Government.

These increases are necessary now. If RCRA is amended to provide for more expeditious clean up of abandoned and generator-owned inactive sites, as we recommend later, far more staff will be needed at both EPA and the Department of Justice.

The Congress also should consider the establishment of a grant program for States which would provide special funds to State Attorneys General offices for general environmental protection enforcement activities, and RCRA enforcement activities in particular.

### 3. LEGISLATION SHOULD BE ENACTED TO ESTABLISH A POSITION OF ASSISTANT ADMINISTRATOR FOR LAND AND HAZARDOUS MATERIALS AT EPA

When the Congress passed RCRA in 1976, it created a statutory Office of Solid Waste headed by a deputy assistant administrator so that the management of solid and hazardous wastes would receive special attention. Unfortunately, this action did not go far enough to assure that implementation of RCRA received proper priority within the agency.

As noted previously in this report, the RCRA program has been viewed merely as a "subset" of the water program. In answer to questions posed by Subcommittee staff concerning EPA's failure to take appropriate action in 1977 and 1978 to issue RCRA regulations in compliance with the Act, Assistant Administrator Jorling answered that he simply hadn't "focused" on the development of these regulations. It is clear that the implementation of RCRA has not received, until recently, the attention it deserves.

This failure to act is, however, symptomatic of a much larger problem. For many years, the management of solid and hazardous waste was considered simply a municipal garbage problem. Although proper management of municipal waste is an important problem in itself, RCRA goes well beyond the notion that what we are facing is simply a garbage problem.

Hazardous waste disposal poses a serious land use problem which affects and will continue to affect the quality of life through its impact on human health and the environment. Land contamination is both an extremely serious national health problem and a critical environmental problem. Not only does it render land unusable, it also may contribute to the destruction of surface and groundwater and the deterioration of air quality.

EPA has provided equal footing for its air and water programs, but its land program has remained the stepchild of the water program. As such, it cannot compete within EPA for the scarce resources it must have to be effective. Moreover, because it does not have at its head a highly visible and powerful member of EPA's management team, one cannot expect that its priorities will be weighted as heavily as the other programs' priorities.

Lastly, we cannot expect an assistant administrator, with other major responsibilities such as enforcement of the Clean Water Act,

to be able to follow the day-to-day developments and guide the program with any great skill.

Therefore, we recommend that the position of Assistant Administrator for Land and Hazardous Materials be established statutorily within EPA.

The new Assistant Administrator should be responsible for all land contamination programs, including hazardous and solid waste programs involving the discharge of hazardous materials from land or other sources into any medium. We believe that the creation of this position will ultimately enhance the quality of all of our environmental programs.

**4. LEGISLATION SHOULD BE ENACTED TO ESTABLISH AN EMERGENCY ACTION AND CLEAN UP PROGRAM FOR ABANDONED SITES AND GENERATOR-OWNED INACTIVE SITES; AND TO PROVIDE CARE OF GENERATOR-OWNED INACTIVE SITES**

*a. Emergency action and clean up program for abandoned sites and generator-owned inactive sites*

The purpose of subtitle C of RCRA is to protect the public health and the environment from the adverse effects of inadequate and unsafe hazardous waste disposal practices. Unfortunately, the Act was prospective and did not anticipate the serious problems posed by some existing hazardous waste sites, including abandoned sites.

While EPA can take emergency action to force clean up of a site which presents an imminent hazard to the public health or the environment, RCRA did not provide for comprehensive regulation of abandoned and inactive generator-owned sites.

Also, not knowing the size of the hazardous waste problem, Congress did not specifically include funds in RCRA for clean up operations. Although special allocations are available for clean up (EPA, for example, contributed \$4 million through a special allocation to the State of New York to assist in remedial work on the Love Canal), these grants can only be issued on an ad hoc and very limited basis.

The investigations of the Subcommittee clearly show that there is a need for the creation of a substantial fund to clean up existing sites that pose or may pose a danger to health or the environment. Many people are endangered by discharges of hazardous wastes from abandoned sites where a financially responsible person cannot be found.

In addition, people being affected by discharges of hazardous wastes from a generator-owned disposal site should not have to wait years while their rights against the owner of the site are litigated in court. Instead, we believe that the same fund that is used for clean up of abandoned sites should be used for clean up of generator-owned inactive sites that require emergency action. The first priority in this area must be to clean up all dangerous sites to protect the public health and the environment.

Therefore the Subcommittee recommends that the following two options be considered to pay for the clean up of dangerous sites:

(1.) A fund to come from general federal revenues which should be established with a \$500 million authorization—and appropriation—the first year and \$250 million each year thereafter until the fund grows to a total of \$1 billion. While the clean up of these sites would be paid

for initially from Federal funds, the Federal Government would be subrogated to the rights of any injured persons to recover damages under State common law for the cost of the clean up. In addition, the government should have the option to sue the generator of the hazardous waste under a theory of strict liability to recover the costs of the clean up. As Congressman Eckhardt stated during the hearings:

... some agency representing Government, either State or Federal, should be in a position to bring suits and be subrogated to the claims of those who would continue to be injured if the site were not cleaned up. When Government acts to reduce the damage to the public and that damage is identifiably caused by a disposal of wastes, it seems to me that we should not have to pay for that out of tax money; it ought to come from whoever did the harm in the first place.<sup>105</sup>

(2) A fund to come from an industry based fee system and general revenues. As in the case of the option listed above, the Federal Government would be subrogated to the rights of any injured persons to recover damages under State law. We believe a fee system would clearly be constitutional.

Monies from the fund should be allocated to the States based on priorities established by each State for the following purposes:

(a) emergency actions taken by the State to contain and abate dangerous discharges from an abandoned site or a generator-owned disposal site;

(b) actions taken to investigate the extent of contamination caused by these sites;

(c) actions taken to investigate the health effects resulting from the contamination caused by these sites;

(d) actions taken to temporarily relocate area residents who might be adversely affected by the hazard posed by these sites;

(e) actions taken to remove and dispose of the hazardous substances creating the problem; and

(f) continual monitoring and maintenance of these sites.

The granting of monies from this fund will occur only when the State affected is willing to assume five percent of the total costs involved. Moreover, granting of these monies will be contingent upon State activities to:

(1) locate owners, operators or contributors to the site; and

(2) take vigorous enforcement action to recover the Government monies expended from the above individuals.

Monies also may be used for the purposes enumerated above for sites owned and operated by local or State governments if those governments pay for 30 percent of the costs.

#### *Care of generator-owned inactive sites*

The Subcommittee survey of the Nation's 53 largest domestic chemical manufacturers indicated that 94 percent of all hazardous waste generated by those companies was disposed of at generator-owned sites located at the plants' facilities. As we have demonstrated by case studies including: Montague, Michigan; Lathrop, California; Harde-man County, Tennessee; and Niagara Falls, New York; generator-

<sup>105</sup> Statement of Bob Eckhardt, Chairman, Subcommittee on Oversight and Investigations, at the June 5, 1979 hearing of the subcommittee, at p. 61 of the transcript.



owned facilities, whether on the plant site or not, have the same potential for damaging public health and the environment. However, a generator who owns an inactive on-site disposal facility has no obligations under RCRA, except where the site poses an imminent hazard. Therefore, we believe it is essential that legislation be enacted to directly require inactive generator-owned sites to come under a uniform system of regulation.

We recommend that all generators of hazardous waste for inactive sites be required to:

- (1) Inventory all generator-owned on-site facilities and maintain a manifest on these facilities including information on:
  - (a) the sites' contents—composition and amount of waste; and
  - (b) the exact location of the site;
- (2) Monitor, depending on the degree of hazard presented by the waste, for leachate and groundwater contamination, and submit the data to the State and to the regional EPA office on a periodic basis; and
- (3) Notify the appropriate State agency and regional EPA office immediately upon a finding that leachate is moving off-site or that groundwater has become contaminated.

5. LEGISLATION SHOULD BE ENACTED TO ESTABLISH A FEE SYSTEM COLLECTED FROM WASTE GENERATORS FOR STATE ADMINISTRATION OF HAZARDOUS WASTE AND FOR ANY COSTS OF VIOLATIONS OF RCRA THAT ARE NOT PAID BECAUSE OF THE FINANCIAL INABILITY OF THE RESPONSIBLE PERSON

Regardless of the funding method selected to pay for the clean-up costs for abandoned sites and generator-owned inactive sites which require emergency action, the Subcommittee also recommends that the Congress establish a fee to be collected from generators of hazardous waste for:

- (a) Administration of hazardous waste program, by the States; and
- (b) Any costs of violations of RCRA that are not paid because of the financial inability of the responsible person.

The second category would be similar to assigned claims plans in motor vehicle insurance systems. These fees would pay for any such costs incurred after October 21, 1976, the date that RCRA was signed into law.

The size of the fee collected from each hazardous waste generator should depend on the degree of hazard posed by the waste generated. EPA should be required to establish regulations delineating how this evaluation will be made. Fees also will be imposed on imported chemicals reflecting the degree of hazard posed by these chemicals. In this way, the products of the generators of hazardous waste will bear a price tag that reflects their real cost—for both production and disposal.

6. LEGISLATION SHOULD BE ENACTED TO ESTABLISH GENERATOR RESPONSIBILITY FOR THEIR WASTES UNTIL THEY ARE NO LONGER HAZARDOUS

We further recommend that Congress embody the concept of eternal responsibility for the generators of hazardous wastes, i.e., that

generators of waste should be liable for any hazardous waste product they produce whether they continue to have control over the waste or not. We believe this will encourage not only safer on-site activities, but also more careful selection of private disposal firms. We recommend that this policy be effective January 1, 1980. We further believe that the Act should provide for prima facie generator liability for any hazardous waste produced before that date rebuttable only by a showing of substantial evidence that the facts and the law of the earlier time were specifically contrary to this conception of liability.

In addition, given the dangers associated with hazardous wastes, the generators' liability should be based on a standard of strict liability.

#### 7. LEGISLATION SHOULD BE ENACTED TO STRENGTHEN THE CRIMINAL PENALTIES SECTION OF RCRA

Section 3008 of RCRA provides that any person who knowingly—

- (1) transports any hazardous waste listed under this subtitle to a facility which does not have a permit under section 3005 (or 3006 in the case of a state program),
- (2) disposes of any hazardous waste listed under this subtitle without having obtained a permit therefor under this subtitle,
- (3) makes any false statement or representation in any application, label, manifest, record, permit or other document filed, maintained, or used for purposes of compliance with this subtitle,

shall be subject to a fine of not more than \$25,000 for each day of violation or imprisonment not to exceed 1 year, or both. If a person is convicted again, the punishment is a fine of not more than \$50,000 per day of violation, or imprisonment for not more than 2 years, or both.

As our hearings revealed, improper disposal of waste can seriously harm the health of both the people alive today as well as those who are yet unborn. In addition, improper disposal can destroy the drinking water supplies of whole communities for years and years. Further, of course, improper disposal can cost millions of dollars to clean up. The Subcommittee believes that the present criminal penalties contained in RCRA are simply not commensurate with the harm that can be done. Destroying a drinking water supply is surely more serious than cheating on welfare checks. Therefore, the Subcommittee recommends that a person who violates any of the provisions proscribed by section 3008 be subject to imprisonment for up to 5 years for a first offense and up to 10 years for a second offense.

Furthermore, RCRA should be amended to hold the responsible corporate officials who knew of illegal activities or had reason to know of them liable for their actions and the actions of their employees. We have heard much over the last few years about the cost of Government regulation. The best way to minimize this cost is to deter corporate officials from violating the law in the first place. We believe that strict criminal penalties and placing responsibilities on corporate officials will do just that and thereby decrease the number of Federal employees needed to enforce the statute.

ADDITIONAL VIEWS OF HON. BOB ECKHARDT  
CHAIRMAN, SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

I strongly support the report of the full Subcommittee, but it leaves open one question: where the culprit cannot be found or recovery cannot be made from him, should the cost of cleanup of the abandoned waste site be paid for out of general revenue or on an industry-based fee system? I would opt for the former.

In explaining why, let me state what I consider the rationale for an industry-based fee system for any payment to be. It is important that the cost of goods and services, as a general proposition, be covered by the price of such goods and services. Thus, when chemical companies today plan to put goods and services in the marketplace they should, wherever possible, cover all costs -- the cost of research, manufacture and distribution and also the cost of handling waste products -- in the price of the product placed in the market. But such can be done only in the case of products currently distributed.

With respect to old waste sites, whose hazardous contents have been disposed at some time in the past by miscreants who cannot be identified or cannot be made to clean up their wastes because of bankruptcy or other reasons, the principle stated above does not apply. The price of the present product has no relationship with the past activity. An existing chemical company and those who buy its chemicals have no more relationship to the harmful occurrence in the past than they do to the San Francisco fire or to the disaster occasioned by a hurricane.

The modified fee system proposed in the fifth legislative recommendation of the Subcommittee's report, since applied prospectively, is consistent with the goal that the price of any product should reflect its true social cost if we are to produce goods efficiently. But it would have nothing to do with that goal if it were used for the purpose of rectifying long past nonfeasance or misfeasance.

I oppose using a fund of this nature merely as a convenient means of collecting money to solve a social problem. If we are to treat a fee system merely as a convenient tax, and use it in lieu of general revenue, we have substituted a very regressive sales tax for the progressive general taxation system of the United States.

For the reasons I have stated above, I think the following four criteria should be applicable respecting the cleanup of hazardous wastes:

(1) As respects both past and prospective activities, the policy should be to make the person responsible for the hazard pay for the cost of the cleanup, whenever responsibility can be established and such person may be made to respond in damages.

(2) Where it is not possible to attach responsibility or to make the person responsible for the hazard pay for the cleanup, and the hazard was created in the past, the policy should be to pay for cleanup out of general revenue.



(3) For all such hazards created approximately contemporaneously with the passage of the recommended legislation or in the future, where the perpetrator cannot be identified or made to pay, cleanup should be paid for from a fund collected through an industry-based fee system.

(4) Whatever the source of the funds used for cleanup, such source should be replenished by the government being placed in a position to sue the generator of the hazardous wastes to recover the cost of cleanup.

ADDITIONAL VIEWS OF THE HONORABLE

ALBERT GORE, JR.

The release of the Subcommittee's report on hazardous waste marks the culmination of a full year of work by the Subcommittee members and staff. The report clearly illuminates the issues and actors that were examined during our 13 hazardous waste hearings. These hearings unearthed serious deficiencies in the attempts by government and industry to confront the hazardous waste issue.

The hearings also highlighted a recently acknowledged blindspot in the relatively new search for a consensus on policy and procedures designed to ensure a safe and lasting environment. That blindspot has been an almost total ignorance of the real and potential consequences for land pollution. Until very recently, land was perceived to be an awesome sponge, a resilient reservoir which would readily absorb any chemical concoction that man could brew. This naive viewpoint was shattered by the Love Canal disaster. And, as our Subcommittee discovered, Love Canal is not unique; unknown quantities of toxic substances are oozing from thousands of disposal sites across the country.

The magnitude of the problem is still not clearly defined. A national survey of disposal sites, building upon the survey conducted by our Subcommittee, must be begun immediately. However, though the figures are not exact, evidence already available indicates that the waste disposal problem is an enormous one that will require a large sum of money merely to bring under control. The Subcommittee report conspicuously fails to detail the responsibility industry has had for the improper disposal of hazardous wastes.

Industry must share the blame for the problems. It must also share the responsibility for protecting the public and the environment from both new and old hazardous waste sites and spills. The Subcommittee hearings demonstrated unequivocally that industry knew the real and potential dangers and often ignored state-of-the-art waste disposal practices. This criticism does not apply uniformly to all companies but many firms displayed myopic vision in looking at the problems and exerted little effort to resolve them.

The question of paying for clean-up costs is complicated because many hazardous waste sites are abandoned (no known owner or liable party) or inactive (owner is identifiable but often financially unable to assume the costs of pollution abatement). The courts

will decide the extent of any individual business' criminal negligence, but the Congress must decide who will foot the bill for the containment, clean-up, and other costs of abandoned and inactive sites.

The Subcommittee has recognized the need to create a sizable fund which would cover, at least initially, the containment, clean-up, and some liability expenses. It discussed several options, but failed to recommend a specific source of revenue for the fund. I believe that industry, along with the Federal government, should share the expense of ensuring that abandoned and inactive sites are safe. This can best be accomplished by designing an industry-based fee system.

In a legal context, there is ample precedent for establishing a fee system whereby current manufacturers of hazardous substances are required at least partially to offset costs arising out of abandoned or inactive hazardous waste site problems. The Congress in the past several years has created two fee-based retrospective funds. The Black Lung Disability Trust Fund which was created by the Black Lung Benefit Act and the Abandoned Mine Reclamation Fund mandate that current businesses contribute funds to compensate for damages caused by past industry's practices.

More important are the moral and practical questions of this issue. Morally, the companies in this industry today, and their forerunners, have realized significant financial gains at the expense of the general public and the environment. Until only recently companies did not have to internalize waste disposal costs, and they derived the greatest benefit from lax disposal practices. The taxpayer should not have to bear the full costs of protecting the public from operations that were highly profitable to a narrow slice of our industrial sector. The Subcommittee report recognized this point: "The dumping was done by private concerns which, in many cases, profited substantially at the expense of the environment and, occasionally, the public health." Ultimately, all members of society will bear a substantial portion of these costs as taxpayers, when Federal coffers are tapped, and as consumers, when industry passes costs along the production chain.

The fund should not and cannot come exclusively from general Federal revenues. Such an approach would jeopardize any future efforts to resolve the single most important conclusion of the Subcommittee: that a significant number of hazardous waste disposal sites threaten the public health and the environment and efforts must begin immediately to redress the dangers. This challenge can only be met with adequate resources.



It is practically impossible to expect that the Federal budget alone could accommodate the demands of responding to all the abandoned and inactive sites that must be dealt with. The public should not be duped by claims that the Federal government would contribute the necessary funds. The "Fedfund" envisioned by some would be extremely vulnerable to political and economic sparring on an annual basis. Simply put, the funds that could be pried out of annual appropriations would be inadequate.

The argument is made that the government, acting as a surrogate, would recover monies spent for solving the problems arising out of land contamination incidents when the liable party can be identified. The Subcommittee Report fails to make clear that it will be impossible in most instances to recover the cost of cleaning up in this way. By definition, abandoned and inactive sites are those closed facilities which cannot be traced to a specific owner or which are often owned by insolvent individuals. The magnitude of the abandoned site issue is enormous both in number of sites and clean-up costs. The Subcommittee report notes that " testimony before the Subcommittee clearly indicated that hundreds and perhaps thousands of these abandoned sites exist throughout the country and that the number continues to grow daily. These expenses will mount as new problem sites are discovered and owners and operators of these sites declare bankruptcy. Moreover, in some cases the original owners and operators either cannot be identified or went out of business many years before the problems were discovered."

The option to sue under strict liability in this area is limited to a very few generator-owned inactive facilities owners who are solvent. In short, it is an extremely limited option.

A cost-spreading program covering companies that benefit from processes which generate hazardous waste, supplemented by Federal funds, is an equitable and practical way to address perhaps the biggest looming threat to our health and environment.

Albert Gore, Jr.

ADDITIONAL VIEWS OF THE HONORABLE NORMAN F. LENT,  
MATTHEW J. RINALDO, TOM CORCORAN AND JAMES T. BROYHILL

We believe that the issue of hazardous waste disposal should be one of first priority for this Nation. Our series of hearings on this issue is a sobering testimonial to the current state of waste disposal in this country. Witness after witness came before us to tell either of existing human suffering from indiscriminate dumping or the future potential for it.

Our oversight hearings are not the first time the problem of hazardous waste disposal has been recognized by our Committee and the Congress. In 1976, Congress passed the Resource Conservation and Recovery Act, which established a "cradle to grave" regulatory scheme for the care of hazardous wastes. It set standards to be implemented and administered by EPA for generators, transporters, owners and operators of hazardous waste treatment, storage, and disposal facilities. Unfortunately, EPA has been grossly derelict in promulgating the regulations which will implement these life-saving standards.

According to the timetable set by the Resource Conservation and Recovery Act (RCRA), EPA was to have its regulations promulgated by April, 1978. It is now September, 1979, and the regulations have not been finalized. Because of its failure to meet the statutory deadlines, EPA was sued by a number of parties to obtain court ordered deadlines for promulgation of the RCRA regulations. In his January 3, 1979, ruling on the case, Judge Gerhard A. Gesell did impose deadlines for promulgation. He ordered that sections 3001, 3002, 3003 and 3004 be finalized by December 31, 1979, and that sections 3005 and 3006 be finalized by October 31, 1979.

Despite Judge Gesell's ruling, on July 2, 1979, EPA Acting Administrator Barbara Blum informed the court that:

These problems -- and the magnitude of the task facing the Agency and other pressures on us -- make promulgation of section 3001 through 3004 regulations by the Court's December 31, 1979, deadline uncertain.

Ms. Blum also informed the court that it was uncertain whether EPA would meet the final promulgation date for section 3005 and 3006 regulations.

We strongly concur with the findings of the Subcommittee Report that further delays cannot be tolerated. In short, EPA has failed miserably in its attempts to carry out its responsibility under RCRA. The Agency simply did not give establishment of the RCRA regulations the proper priority. It failed to either request or devote adequate resources to the important task of promulgating workable regulations.

We believe another cause of this inexcusable delay is EPA's approach to the issuance of these regulations. The RCRA statute specifically requires that certain standards be keyed to the "degree and duration of risks." The legislative history also supports the requirement that RCRA standards be related to the degree of hazard. However, instead of focusing its regulations to attack the most hazardous material first, EPA has chosen not to act until a comprehensive set of regulations has been drafted. That strategy has produced the current 1-1/2 year delay in taking action to abate any hazardous wastes, with no end to the delay in sight. And, as the delays continue, more Americans risk serious illness from unregulated hazardous waste disposal.

To end the existing regulatory stalemate, we strongly urge EPA to quickly propose regulations which will enable it to deal with the most hazardous discharges immediately. This can be done by establishing criteria based on the toxicity of chemicals and chemical wastestreams. Waste facilities and storage sites that are determined to be most hazardous to human health and the environment should be regulated first. At a later date, EPA can issue additional regulations for less hazardous situations. We believe this to be a more rational regulatory approach. It becomes even more important to use a priority approach now that EPA indicates it is likely that portions of the proposed regulations will have to be rewritten. Under a rational system of priorities, the states and the Federal Government will be able to move quickly to abate the most threatening human and environmental problems.

We would note here that one section in its proposed regulations where EPA could begin to apply a priority approach is to its proposed exemption for generators of 100 kilograms or less of hazardous waste a month. While this report recommends an elimination of that exemption, we believe that, rather than entirely eliminating it, EPA should permit the exemption where the wastes involved are not extremely hazardous. However, for those wastes which are extremely hazardous, no exemption should be allowed. We believe that exempting some small generators of less hazardous wastes from the RCRA regulations will enable EPA to focus its limited resources on other, more serious problems.

In addition to setting priorities in its regulatory development, the Agency also should utilize performance standards to a far greater extent than it has under RCRA. For the following reasons, it is our opinion that EPA should have prescribed performance standards, rather than design and operating standards, for the treatment, storage or disposal of hazardous waste.

First, the plain language of section 3004 of RCRA requires EPA to focus primarily on performance standards. Section 3004 says:

Not later than eighteen months after the date of enactment of this section, and after opportunity for public hearings and after consultation with appropriate Federal and State agencies, the Administrator shall promulgate regulations establishing such performance standards, applicable to owners



and operators of facilities for the treatment, storage, or disposal of hazardous waste identified or listed under this subtitle, as may be necessary to protect human health and the environment.

Second, the House Committee Report confirms this clear understanding and congressional intent. In describing the "Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities," the report states that:

The Administrator is also required to promulgate performance standards applicable to those facilities operated for the treatment, storage, or disposal of wastes identified as hazardous. These performance standards must reasonably protect human health and the environment. (H.R. 94-1491, 94th Cong., 2d Sess. at 27-28 (1976))

Third, we believe performance standards will be technology-encouraging. Design and operating standards, because of their inflexibility, will discourage development and use of alternative technologies. We believe that by giving those regulated some latitude in determining the technology they use in meeting groundwater, surface water and air quality standards, technological innovation which will produce even cleaner water and air will be advanced.

Fourth, and perhaps most important, performance standards work better than design standards because they place the burden for compliance with the goal of a clean environment upon generators and disposers of hazardous wastes rather than on the Federal Government. The method of achieving a clean environment is far less important than the fact of achieving a clean environment. Is it not better for government to insist on results rather than getting bogged down in the specifications of the manner used to achieve the desired results?

In general, we believe the legislative and regulatory recommendations contained in this report are constructive. In particular, we wish to voice our strong support for the recommendation that legislation be enacted to strengthen the criminal penalties section of RCRA. We believe that violations of environmental laws such as RCRA, which will endanger the environment and the public health, call for strong criminal penalties and vigorous enforcement of them. Civil penalties alone or in conjunction with the threat of only light criminal sentences, in many instances, simply may not be an effective deterrent to environmental crimes which can net the criminals millions of dollars. We sincerely hope that the threat of long prison sentences will be a deterrent to these types of crimes.

The criminal penalty recommendation in this report goes on to advocate that RCRA should be amended to hold the responsible corporate officials, who knew of illegal activities or had reason to know of them, liable for their actions and the actions of their employees. Because of the difficulties in establishing culpability based on the "had reason to know" criteria, we would suggest adoption of the "actual knowledge" approach EPA's Enforcement Office took in

its "Criminal Proceedings Guidelines" issued under the Clean Air Act. Those guidelines read as follows:

The basis for a criminal action against a corporate official will be based on demonstrating that he had actual knowledge of the regulations and the violations, and that the corporation and/or the corporation's agent had continued to violate knowingly an applicable regulation and/or EPA order, with the corporation, as directed by the president (or other officer(s)), failing to correct or to prevent further violations of the applicable regulations and/or EPA order. (p. 28) (Emphasis Supplied)

We also would point out one recommendation in this report which may result in waste generators avoiding the law. It calls for the EPA RCRA regulations to require wastes to be tested for radioactivity, infectiousness, phytotoxicity, and teratogenicity and mutagenicity. There are several problems with this recommendation. The first is that no notice is taken of the fact that many companies simply do not have the capacity to perform the extensive, sophisticated tests which would be required here. Second, because of the cost involved, we are fearful that some waste generators, particularly smaller ones, will lose their incentive to test (it has been estimated that total testing costs for all eight characteristics contained in the proposed EPA regulations, at a minimum, would run \$20,000 per waste). If this does occur, the results could be two-fold. Some generators might decide not to test and simply declare all their wastes hazardous, exacerbating the already serious problem of limited dump site capacity. Or, rather than test, some generators might dispose of their wastes improperly or illegally. Either of these results would be unfortunate. In short, we believe that in order to be effective, the RCRA regulations must be flexible. Therefore, while we do not oppose requiring testing for radioactivity, infectiousness, phytotoxicity and teratogenicity and mutagenicity, for the reasons discussed above, we would permit EPA to either make exemptions or special provisions in its regulations for those instances where lack of capacity or excessive cost will result in generators avoiding the law.

There are additional areas in this report which are of some concern to us. Contained in it are several unique concepts which we believe require in-depth analysis before being reduced to legislative language. With regard to retroactive responsibility for the dumping of hazardous waste, this report would permit the Federal Government the option to sue the generator of the hazardous waste under a theory of strict liability to recover the cost of clean up which had been paid for initially from Federal funds. In this area, we believe equity requires that certain defenses be established for generators of hazardous waste (e.g., a third party defense where it could be shown the release or injury was occasioned by a third party intervenor). In general, we have grave reservations about the equity of imposing different liability standards for past actions than those accepted at the time the events occurred.

With regard to prospective liability, we believe the concept of eternal generator responsibility for their wastes, based on a standard of strict liability, merits consideration. However, because of its far ranging consequences, we believe it should be studied at more length.

Finally, with respect to the fund to clean up abandoned and generator-owned inactive sites, we endorse the establishment of a strict prioritization system for the use of these Federal monies. Great care should be taken to insure the most effective use of these limited funds. For example, in most instances, containment may be more cost-effective than total clean up of a hazardous waste site.

We also would urge that any subpoena authority provided to EPA and the Department of Justice under RCRA be narrowly drawn to avoid the potential for abuse.

In conclusion, we reiterate our belief that the hazardous waste issue should be given the utmost national priority. Our Subcommittee hearings document in minute detail the extent and seriousness of this problem. The task of regulating future wastes and cleaning up existing waste sites is one which will require the concerted efforts of industry, state governments, and the Federal Government. We look forward to a cooperative working relationship which will insure that the hazardous waste disposal problem is given the attention it deserves.



SEPARATE VIEW OF THE HONORABLE NORMAN F. LENT

I would like to commend Dr. David Axelrod, the New York State Commissioner of Health, for the admirable job I believe he and the Department of Health are doing to cope with the significant environmental problems facing the State of New York.

In my dealings with him, Dr. Axelrod always has been extremely accommodating. Following this Subcommittee's hearing on the extensive groundwater contamination in Long Island, Dr. Axelrod immediately agreed to my request to conduct a health survey of the past and present employees of Hooker Chemical Company, which has been manufacturing and dumping toxic chemical wastes into Long Island's ground and water for at least 20 years. I am grateful to Dr. Axelrod for his prompt assistance.

## SEPARATE VIEWS OF THE HONORABLE MARC L. MARKS

Our hearings served to emphasize the serious problems Pennsylvania has encountered in coping with the disposal of hazardous waste. And, until adequate state legislation and funding are provided, the unhappy situation will continue.

No state should become a dumping ground for the hazardous wastes of another. Yet that is exactly the position Pennsylvania is in today. Testimony at our Subcommittee's hearings revealed that the State of New Jersey currently is dumping 65 to 70 percent of their hazardous waste material in Pennsylvania. New Jersey's own records verify these figures.

The reason for this is simple: New Jersey has enacted strict laws regulating the disposal of hazardous wastes. Pennsylvania has not. Therefore, to avoid the expense and effort of complying with New Jersey's laws, hazardous waste generators in that state simply send their hazardous wastes to Pennsylvania. Undoubtedly, other states are following the same pattern.

These practices must stop. The citizens of Pennsylvania should not be subjected to the hazards posed by indiscriminate dumping from other states. To make matters worse, once EPA promulgates its RCRA regulations, it will be Pennsylvania's responsibility to insure that all dump sites in the state are in compliance with strict standards. Every pound of hazardous waste transported into the state, when added to Pennsylvania's own wastes, will only make that job more difficult and expensive.

I have contacted the members of the Pennsylvania state legislature about this matter. They agree with my concerns and feel that the hazardous waste issue should be given serious and immediate consideration. Therefore, additional resources must be budgeted for the waste disposal problem, and the disposal of hazardous wastes must be strictly regulated to discourage out-of-state dumpers. Immediate action by the state legislature is needed in both these areas. In addition, the Federal Government must set the tone in preventing one state from being the recipient of another state's wastes without its approval.

I sincerely hope that these steps will be taken immediately. Nothing less than the health and welfare of the citizens of Pennsylvania is at stake.

SEPARATE VIEWS OF  
REPRESENTATIVE WILLIAM E. DANNEMEYER  
TO THE  
HAZARDOUS WASTE DISPOSAL REPORT OF THE SUBCOMMITTEE  
ON OVERSIGHT AND INVESTIGATIONS  
OCTOBER 2, 1979

The other members of the subcommittee and also the subcommittee staff deserve much credit for the development of this Report. Its publication is likely to focus public attention on what is, by everyone's admission, a very serious problem and hopefully, its recommendations will speed the day when solutions are found. However, it is to be hoped that, in between, some very careful thought will be given to these findings and recommendations, for in some instances at least, either the findings or past experience or both suggest a course of action rather different from those contemplated in this document.

Some of the instances to which I am referring are ably dealt with by my colleagues who signed the Additional Views. Particular reference is made to regulating the most dangerous wastes first, the need to emphasize performance rather than design and operating standards, and the concern about EPA and the Justice Department being given overly broad subpoena powers. But there are a num-



ber of other points that need to be made and several that could be expanded upon.

First, the expansions. The Report recommends that the proposed EPA exemption of those generating less than 100 kilograms per month of waste not be permitted. The point is well made in the Additional Views that approving the exemption would enable EPA to focus on other, more serious, waste situations but what about the fact that most of these "small generators" are likely to be small businessmen many of whom are likely to go out of business and abandon a site rather than have to put up with all these additional requirements. Certainly, such a development would go contrary to the intent of this Report, to say nothing of being considerably at odds with recent efforts to ease the burden of government regulation of small business. If OSHA has been a major problem for small businessmen the RCRA regulation of small generators will be no less so--and it will be costly as well. Also, it should be noted that, even if this exemption were granted, these small generators would still be required to dispose of their wastes properly and carefully.

The second point in need of expansion is similar to the first; while everyone wants to punish the cul-

prits, the criminal penalties should not be so severe as to have the effect of discouraging private enterprise from exerting much effort to solve the problem. On the one hand, some of the firms that are in hazardous waste disposal business now are likely to get out of it in short order if extreme penalties go into effect, making it harder to clean up the wastes. On the other hand, new firms with new technologies are not as likely to get involved in hazardous waste projects.

The effect of excess regulation upon the willingness of the private sector to get involved brings to mind the first of the other points that need to be made. As written, this Report makes only two brief mentions of any role that private enterprise might play in the clean-up effort. Instead, the thrust of the Report is directed almost entirely at what government, and especially the federal government, should be doing. Perhaps this is intentional, which would help explain some of the aforementioned recommendations, but the fact remains that private enterprise could do a lot. With proper encouragement, and not an excess of regulatory zeal, private enterprise could develop, or bring into play new techniques,

such as incineration, that could make solving the problem easier. Also, with budget resources as tight as they are, it makes far more sense to encourage private enterprise to develop new technologies than it does to tap the taxpayer for the necessary research and development.

By way of further explanation, the private sector would be able to dispose of many hazardous wastes because it is economically feasible so to do.

For instance, West Germany and several states in the U.S. have a high temperature incinerator (2,500° C) which disposes of wastes with a hydro carbon base, Water vapor goes out of the stack of such an incinerator. The waste now stored in the sought to be infamous Valley of the Drums has a hydro carbon base and could be successfully consumed in such an incinerator.

A workable plan likewise could be developed which would provide for about 10 federally supervised regional high hazard disposal sites. These sites would accomodate disposal of low level nuclear waste and other non-burnable wastes.

Adjacent to these regional sites, under state control, would be state operated high temperature incinerators which should produce steam for sale to the power grid. Revenue bonds could be sold to provide the funds to build



and operate such a facility.

The high temperature incinerator should be a part of facilities which will have the following additional capacities:

1. acid neutralizer
2. chemical solvent recycler
3. land fill with non-toxic material

It is feasible and appropriate to develop a plan whereby the high temperature disposal site could be subsidized and operated from the revenue generated from the sale of power to the power grid from the high temperature incinerator burning waste with a hydro carbon waste.

The abandoned waste located at various points in the country could be disposed of with the forgoing plan. We do not necessarily have to have a federal tax on all chemical products or resort to general tax revenue to furnish this cash.

With such a concept in mind, it should also be remembered that, in many respects, this Report is a condemnation of governmental efforts to solve the hazardous waste problem. The Report even goes so far as to state that: "Ironically, the earlier (environmental) statutes actually added to the amount of hazardous waste disposal on land." Put in its proper

context, that statement underscores not only the fact that a law designed to correct one evil frequently creates another but begs the question of just how much good more governmental regulation will do. Because what we are dealing with is so dangerous we must recognize, and accept, that it may not be possible to entirely eliminate the threat it poses in all instances, a more reasonable expectation is to safely contain it. Given that fact, the next best thing is to look at the record and see what has worked best in the past. Granted, private enterprise is technically responsible for many of the problem sites but we know a whole lot more about the dangers of certain wastes than we did when these sites were created. Also, the standards and values that were relevant at the time a lot of these sites were getting started were very different than they are today. Production and jobs were of greater concern, there was less environmental consciousness and it is hardly fair to retroactively apply the standards and values in vogue today to an earlier time. But government, and especially the federal government, is a relative newcomer to the field. Their folks have been operating by today's rules and standards and, judging from the Report, they

haven't done very well. Why, then, entrust them exclusively with the job? Why not try private enterprise, subject to reasonable government oversight, and see how well it can do? It is worth the effort; after all, the federal government is not likely to run off and hide, much as we might like it to at times.

Speaking of state governments and the track record of EPA, the RCRA and the federal government in general, a major inconsistency in the Report should be noted at this point. As written, it indicated profound lack of confidence in state government vis-a-vis hazardous waste and a deep-seated fear that, if not regulated, some states will be the "weak link" that will allow a continuation of hazardous waste abuse. But it also suggests, at various points, that certain state laws and precedents, particularly those used in California and Maryland, should be the models by which the federal government should be guided. In addition, the Report notes, with a certain degree of accuracy, that the failure of EPA to promulgate regulations in the 3 years since the RCRA has gone into effect has put the damper on state initiatives in the hazardous waste area. Not knowing what federal authorities are going to come up with, there is a natural reluctance to do something that might soon be



out-of-date or problematical and have to be done over. Not only that but the Report even noted that in one instance a state did act to tighten up its laws because a neighboring state had done so and it did not want to be a "weak link". Put these three points together and a good case can be made for the fact that state governments, in lieu of excess federal regulation, can do the job. Moreover, the extra paperwork and expense of regulation at two levels instead of one, to say nothing of the 10th Amendment to the Constitution, suggest that, to the extent regulation is desirable, it would be better to have state government in the forefront. After all, in most cases, the effects of inadequately contained wastes are reasonably localized; while they are much more than a municipal garbage problem, as the Report notes they used to be considered previously, their impact frequently does not cross state lines. Which is another way of saying, the Interstate Commerce Clause of the Constitution is not necessarily an adequate rationale for federal intervention.

One could also use the old argument that local people know best how to solve local problems, but rather than belabor that, attention should be turned to the experience local communities and firms have had with

other environmental legislation of this nature, specifically, the Clean Air, Clean Water and Safe Drinking Water Acts. Particular reference is made here to the "last increments of pollution" and how eliminating them is far more expensive, often prohibitively so, than getting rid of the biggest part of the problem. With strict federal regulation, such as the Report suggests, there would be no taking of the "law of diminishing" returns into account. Obviously, with resources being limited, that lack of flexibility could be a problem; with more state and local input, it might be far less so.

The mention of cost brings up a final point. The Report contemplates the financial scope of the hazardous waste clean-up at \$1 billion. With the budget out of balance by almost \$30 billion a year, and with inflation running at 13-14%, the prospect of spending another billion should be viewed as seriously as the dangers of not proceeding as rapidly as possible with hazardous waste clean-up. After all, there are at least two other alternatives to deep federal involvement that have a better chance of getting the job done--i.e. private enterprise and state government initiative--but when it comes to cutting inflation, there is only one alternative--to cut federal spending. One billion may not seem like a



lot of money but, as the late Senator Everett Dirksen is reputed to have said, "A billion here a billion there, pretty soon it adds up to real money."

There are a couple of other points that could be made about the Report--the seeming contradiction between endorsing a fee system at one point while rejecting it at another and the failure to recognize that civil penalties levied against corporations would become a cost of doing business every bit as quickly as a fee would--but rather than expand on them, let me close by noting one thing: nowhere in the Report is there any mention of the benefits that obtained from usage of the materials that are now wastes. What with the "don't put it in our backyard" philosophy vis-a-vis hazardous waste sites predominating these days, the Report would have been well-advised to put the problem in its proper perspective. Or, to put it another way; today's waste problem may have been yesterday's economic boom (that no one would have wanted to pass up), or tomorrow's, and the sooner the possibilities for linking safe hazardous waste disposal with economic growth and prosperity are realized, the quicker the problem will be overcome.